The Builder.

No. CCXLVIII.

SATURDAY, NOVEMBER 6, 1847.

HONOUR to art and artists,—the art which has Beauty for its object,—the artist whose province it is to discover and express it! "The perception of truth, and harmony, and beauty, where obscured and disguised, is one of the distinctions of genius. To make these visible to all, is one of its powers. Art should form a part of general education, and will do so, it may be hoped, before long. It may be made to assist *in* education most materially. If, as desired by the ancients, none but beautiful forms were permitted in the assemblies of the young; if noble and holy actions, gracefully set forth, everywhere met the eye; and our rooms were hung with fine thoughts instead of unmeaning patterns;—the effect on the national mind would be much greater than would be believed by those who have not fully considered the subject. Art shows us man as he can by no other means be made known. Art gives us 'nobler loves and nobler cares,'—furnishing objects by the contemplation of which we are taught and exalted,—and so are ultimately led to seek beauty in its highest form, which is GOODNESS."*

The efforts of the artist to express an idea of beauty, existing only in his mind, extend themselves imperceptibly into public benefits, and, as Reynolds expresses it, "are among the means of bestowing on whole nations refinement of taste, which, if it does not lead directly to purity of manners, obviates at least their greatest depravation, by disentangling the mind from appetite, and conducting the thoughts through successive stages of excellence, till that contemplation of universal rectitude and harmony, which began by taste, may, as it is exalted and refined, conclude in virtue." The painter (the *true* artist, he means), says a nameless writer in the "poet's corner" of a country newspaper,—

> "The painter moves in a world of light
> Where every vision is beaming and bright,
> Beauty for ever is couch'd by his side,
> His genius from morn unto eventide;
> And when the fair day waxeth dim,
> What is the darkness of night to him?
> He plucketh a flower from every thought,
> He embodies the drama of every story,
> And this voiceless preacher to man hath taught
> The religion of love and the hope of glory."

Looking into nature, the great artist will put aside what is special and particular, and seize that which is general and universal,—the power and beauty of MAN, not the peculiarities and littlenesses of men. Philosophers teach us that "every growth of nature has but one moment of perfect beauty:"—the business of the artist is to discover and fix this, and thus to produce that which is more elevated than the actual,—the ideal, the highest aim of art.

Let our artists read, study nature, and *think*: a picture which has no thought in it will induce no thought: "the perceptionless cannot be perceived." In other words, let them remember that "the highest excellence of every production of the hand is dependent upon the powers of the mind by which the hand is directed."

* "Report of the Council of the Art-Union of London, for 1847."

Again, honour to art and true artists!

The spread of a knowledge and love of art concerns us much. We would have it universal: and have laboured hard for years, though humbly, in many and different tracks, those who may have watched us in one, unknowing us in others. We would open to *all* the exquisite pleasure to be found in the contemplation of works of art, of

> "Whate'er Lorraine light touch'd with soft'ning hue,
> Or savage Rosa dash'd, or learned Poussin drew;"

and, higher still, of the marvellous productions of Raffaelle the divine, and that wonderful man, Michelangelo. We would have art enter into the life of the people, and see it, as then would necessarily be the case, adorn and elevate our manufactures.

Something has been done in England towards effecting this, and more is being done,—indeed, such agencies are now in operation as never before existed, and, if allowed fair play, will produce great results. When it is remembered, that up to 1824 we had positively no National Gallery of pictures; that before the establishment of ART-UNIONS the possession of works of fine art was wholly denied to the multitudes, (nor were there any but very confined means of leading them to an appreciation of such); further, that until quite recently Government had scarcely admitted the value of the fine arts, still less aided their progress; and, lastly, that our School of Design has not yet, even, begun to work efficiently; it will be seen that our course is but commenced, and that the prospect is satisfactory.

All these institutions, as our readers know, have had our constant attention. The state of the LONDON SCHOOL OF DESIGN for these three years past, has been clearly set forth in our pages:—so far as we know, there is not elsewhere to be found so full a record of its most disastrous proceedings,—and all that we have said respecting it from time to time has been realised. Public duty forbade equivocation; but the condemnation was pronounced in sorrow, not in anger. It has been but a drawing school, and, worse still, a *bad* drawing school. Let us hope that better things will now be done.

At all events, a change is to be made, and it cannot be for the worse, try as they may. The Board of Trade have adopted the report of the "second special committee of the Council of the Government School of Design," already mentioned,* and the director will have no further control over the masters, and indeed scarcely any thing to do with the London school: his services will probably be confined to a general supervision of certain departments of the country schools. A committee of instruction, to consist, as recommended, of five members—three, at least, of whom shall be artists by profession—has been appointed; the artists being Mr. Ambrose Poynter (who resigns his inspectorship), Mr. George Richmond, and Sir Richard Westmacott, R.A. Each class is to have a professor and masters, if we are rightly informed, responsible to the committee; lectures are to be delivered, and the establishment of elementary schools is to be immediately considered.

To produce *designers* must be the object aimed at: a knowledge of drawing and of the various styles of ornamental art which have preceded us, analyzing the principles on which these were produced, is, of course, the first step,—but only a step. We must go much further. To quote a recent writer on the subject; "It is indispensably necessary that the student should be taken to the great Normal School of Nature, and be there taught the modes and principles of natural decoration. The beauties of nature must be carefully studied and developed, and the student must be taught the general application of natural principles and forms, to the various purposes and modes of ornament and decoration. He must then be *methodically exercised* in producing new combinations of the ideas thus acquired; this being really, and in truth, what alone can be called 'teaching design,'—and, most assuredly, the only teaching which can ever result in forming original designers. It is equally indispensable, that a school of design should supply a certain amount of instruction in the condition and processes of manufactures, in order to enable the students, in the course of their school exercises, so to understand and comply with those conditions as to produce designs not only of high artistic merit, but capable of being reproduced by the manufacturer." *

Skill in drawing, as the council themselves stated four years ago, is only preliminary to the real business of the school, "which is to teach *the art of designing ornament*, both in respect to its general principles, and its specific application to manufacture."

At the present moment the school is going on as before, with an arrangement to enforce the regular attendance of the masters,—a very necessary provision, however derogatory the masters may themselves consider it;—and the male school comprises about fifty pupils in the morning classes, and one hundred in the evening.

Before quitting the subject for a time, we would aid the writer of the article before referred to, in denouncing as "erroneous and mischievous an opinion insidiously promulgated, and unfortunately not discountenanced by the corporate authorities in art, that ornamental art is in itself a study so humble as to be unworthy to engross the faculties of any above the class of 'artizan.' In opposition to this depreciating dogma, we may adduce the following assertion of Dr. Cooke Taylor, in his letter to the committee:—'A designer has to invent; and the power of inventing requires that the *mental faculties* should be developed by *general knowledge*. It needs not to dwell an instant on so palpable a truth.' The question between the fine artist and the ornamentist is far less one as to degree of intellectual power, than as to application of that power. The exercise of similar intellectual energies is demanded. Art is, in each case, the exponent of thought, and the rank assignable to the manifestation of such thought must depend upon the powers of mind with which the inventor is gifted. As in 'fine art' there is a humble and an elevated grade of production, so in 'ornamental art' there is a graduated scale, from diagrammatic design to the richest architectonic invention—from the simplest calico pattern to the epic enrichment of a golden salver." In regard to the beautiful in the works of Nature, the 'artist' and the 'ornamentist' labour on common ground; the difference consisting simply in the end to which their energies are directed. If we would estimate rightly the character and position to be assigned to ornamental art, we must look, not to what it hitherto has been, or now is, in this country; we must rather regard the distinguished rank it has held, and the wonderful results it has achieved, when fos-

* See p. 387, ante.

* "The Government School of Design," an able article reprinted from the *Morning Chronicle*, Oct. 1, 1847, containing a review of the reports and evidence of the council of the school, recently presented to Parliament.

tered, as of old, in Greece and throughout medieval Europe, and honoured, as in modern France and Germany.

Mr. Vernon's noble bequest, which has made the provision of another building for the national collection absolutely necessary, will change its character, and lead to other valuable additions of modern works.* A catalogue of the pictures now in the National Gallery, by Mr. Wornum, deserves great praise, and will tend to disseminate knowledge, and by assisting to form a correct judgment, will improve public taste.†

The Chantrey Bequest, when it comes into operation, will soon provide a noble collection of works of art for the people; and another valuable collection would be formed by the diploma pictures of the Royal Academicians, if there were such a place to exhibit them in as would induce the members to send a work they would not be ashamed of.

The value of such collections in an educational point of view, and the importance of leading the general public to their examination, can scarcely be overstated. Fine pictures are dumb poetry, and may be made to exert no small influence on the national mind. Moreover, if we produce an appreciating and discriminating public, we shall force our artists to advance in a corresponding degree.

ARCHITECTURAL NOTES IN MANCHESTER.

In a former volume of The Builder we recorded the impressions which a visit to Manchester, after an interval of a few years, had occasioned, and mentioned instances of good design in architecture, such as might be deemed remarkable in a town in which correct taste in art had been singularly deficient. It had been matter of wonder to many, that where beauty of form and colour in manufactured articles might appear to be most important objects of attention, the education of designers was neglected, and that thousands of pounds annually should be spent in procuring patterns from France, and yet the example of Lyons not followed.—At length the accidental visit of Haydon to Manchester, and his enthusiastic appeals, resulted in the formation of a school of design. For several years, however, the institution cannot be said to have been of much service; many manufacturers were hardly aware of its existence, and few seem to have known how much art had to do with their own occupations and the prosperity of the town.

Painting had long been the only one of the arts which can be said to have met with attention, but, even in that, there is great reason to doubt whether the true love and knowledge of art existed. It was the custom for some of those industrious dealers, who have on sale works of every artist that ever painted, to visit Manchester, amongst other places, and here many "undoubted originals" were readily disposed of. In this way "the original picture of the 'banished lord,' by Sir Joshua Reynolds," was once included amongst similar treasures, and no doubt found a purchaser, at a price which would be cheap for the picture in the National Gallery, but was dear for any copy. Exhibitions of paintings by the old masters, nevertheless, alternated with those of modern artists, and the fortunate possessors of works "by Titian" or "Correggio" had no idea that some who visited the exhibition had seen any similar paintings in the galleries of Italy. Still, Manchester has been by no means singular in this desire of accumulating every thing that bears the name of a great artist, and the mistake, whilst more excusable there than in many other quarters, has further to be set against it the fact that an exhibition of paintings by modern artists was supported for several years, under great disadvantages. But, during all this period, architecture had few opportunities of developing itself, whilst, as throughout England, the extraordinary fallacy, it now appears, was prevalent, that the art had no means of expressing itself except through the medium of the orders. The architects of this day are men of a different kind from those who immediately preceded—notwithstanding that the education of the architect still requires more carefully to be provided for: architecture is becoming a subject of popular interest, and we cannot ascribe a circumstance to any one town, which was equally observable in the metropolis. It could not be wondered at, that the popular notion of an architectural design should be always an arrangement of columns, when architects did nothing to shew the fertility of other resources.

Even in Manchester, until recently, several buildings of about a hundred years old could be met with, having the door and window-dressings of Italian architecture, and in which much might be discovered superior to the version of the Grecian style, lately and for so long in use. Now that the value of the details of the Italian school, and the true spirit of Grecian architecture, have become generally understood, we are surprised that mere holes for light, or window-dressings ill-designed, could have entered into the scheme of the same building, which displayed a portico from the temple on the Ilyssus, or a steeple crowned with the monument of Lysicrates. "Grecian purity" and "simplicity" were constantly the desired results, but their attributes not being understood, porticoes were transcribed wherever they could be put, and, for other features, *design* was feared, as it now is, in Gothic architecture, and a negation of *art* was the consequence. Of such buildings, Manchester contains many examples, without having, till later date, any important building, that might influence towards a better system, and perhaps something is due to architects from other places for having first induced the change now apparent.

For a time, indeed, architecture seemed to retrograde rather than advance. Harrison, of Chester, who designed the Exchange and the Portico News-room, had been, we believe, one of the first architects who practised extensively the Grecian style; and we are inclined to agree with the opinion held as to his ability, which later changes in taste may have altered with many. He was, perhaps, not *sufficiently* well acquainted with the Grecian style, or he would have rejected some forms, which the knowledge of those which were better would have taught him to avoid; but he was far more of an artist than some who succeeded him. It might be said of him as of many a great man, he lived a few years too soon. Goodwin, too, was an architect to whom Manchester is much indebted. In the Townhall, and in several churches, we find much that might illustrate our remarks upon the proper value of Grecian architecture, or would extort praise even from many who are not tolerant of modifications of Gothic detail. But the works of other architects, up to within a recent period, are by no means equally meritorious.

Mr. Barry's Royal Institution was at this time a building calculated to set the architects of Manchester thinking for themselves. Scarcely any of its details were to be found in 'Stuart's Athens,' and yet the building is more completely Greek than many others claiming to be so. Still matters relapsed into their old state, although the Bank in Spring Gardens was commenced from designs by T. W. Atkinson, then of London, and was the most complete change yet attempted. This architect was for some years subsequently a resident in Manchester, and erected many buildings in the neighbourhood.—About ten years since, the Athenæum was in progress: it is well worthy of the architect of the Reform Club, and, though with less decoration, to our conception, in some respects surpasses that building. No doubt it did good service with those who were then learners in art, and who have since done so much to render the town what it now is.

We have before given credit to the architects of Manchester, now surprisingly augmented in number, for a complete change in the appearance of the town, and also to the inhabitants themselves, for having engaged professional assistance for a class of buildings, in which it is not always thought that art can find place. For the proof that warehouses may be designed of a character in accordance with their purpose, and yet without any absence of the graces of art, we need not now point exclusively to the commercial cities of Italy. It has been manifested in Manchester, that a town where large warehouses are constantly being commenced, is indeed in a favourable position for acquiring an appearance of elegance in its "street architecture,"—a department of the art respecting which we once intimated an opinion, that correct principles had yet to be discovered, supplementary to the merit of particular buildings. We do not mean to imply that the difficulty has been solved in Manchester any more than here, where it has been attempted. Still, in London, every attempt to regulate the heights of buildings, and the general effect in streets, has been accompanied by a strange want of skill in designing the details of elevations, and shop-fronts seem to present difficulties which are almost insurmountable.

Perhaps the best warehouse erected in Manchester since our previous visit is that belonging to Mr. Gardner, in Bond-street, by Messrs. Travis and Mangnall. Indeed, we cannot now call to mind, in any other work erected lately, an example of the combination of brick and stone, so happy as in this design. The building is of four stories, besides the basement, which is considerably elevated. Brick pilasters, occupying the height of the three upper stories, and supported by a stone basement, form the principal decoration. All the apertures are semicircular arch-headed, in two orders, so that by recessing the window aperture half a brick, a stone impost, plain console, and plinth, are inserted in the outer face. In the top story, which is much lower than the others, there are two windows in each space between the pilasters, all the other stories having one window. The cornice, which is without break, is ornamented with dentils, and is well designed, but might perhaps have been improved by greater projection. The upper stories are separated by plain string courses carried round the pilasters, and supported in the intermediate spaces by projecting bricks. The portion of the basement story above the ground line is of massive character, and the ground story forms a continuous arcade, with moulded impost capitals and bases, separated from the story above by a cornice. In the three upper stories, the cornice, the coin stones, string courses, consoles, imposts, and plinths, are of stone; the pilasters, arches, and other parts, of red brick. In the ground and basement stories nearly the whole is of stone, except the spandril spaces, and the use in these of brick, made manifest the advantage of the combination, in place of constructing the whole of stone, as usual in brick and stone buildings.——Messrs. Falkner's retail establishment in Bridge-street, is also worthy of being mentioned as a successful example of the combination of brick and stone. The front consists of three stories, surmounted by a stone cornice, under which is a range of small arched windows, grouped three and three. In the two other stories are Venetian windows with stone dressings, the centre light having a semicircular head. The doorway has a large arch springing from columns. The window lights are of disproportionate length;

---

* *The Art-Union Journal* of the present month contains, with much other interesting matter, a detailed account of this fine collection of works of the British school. The editor remarks, "There can be no doubt that the public will hail with one accord the announcement of the Minister that it is his intention to meet the spirit of this great GIFT by asking for a grant of money for its proper reception. No matter where the site may be—either as an addition to the new palace at Westminster, in Hyde Park, or in the Green Park,—somewhere a National Gallery must be erected; and England will no longer blush when reference is made to her vast wealth, and the little of it that goes to educate her people. There can be as little question that the whole of the existing structure in Trafalgar-square will be given to the Royal Academy: and that, consequently, we shall see an end to the present system of hanging at the annual exhibitions; the Octagon-room will be, what it always ought to have been, a closet in which there shall be a clerk to answer questions; while the floor and the ceiling will cease to be places for the condemned. For this, as well as for his glorious collection of pictures, we shall have to honour the name of Robert Vernon—a benefactor to ages yet unborn."

† "Descriptive and Historical Catalogue of the Pictures in the National Gallery; with Biographical Notices of the Painters." By Ralph N. Wornum; revised by C. L. Eastlake, R.A. 1847. The collection now consists of 214 pictures. "It may not be uninteresting to the reader to compare the number of pictures in the National Gallery with the number, according to the published catalogues, in the several principal national collections in Europe. In Rome, in the gallery of the Vatican, there are only 32 pictures; in that of the Capitol there are 225; at the academies of Bologna and of Venice there are in each about 280; in the Stadel Institution, at Frankfort, there are about 230; at Naples, there are 700, exclusive of the ancient paintings from Pompeii and Herculaneum; in the Berlin Gallery, recently established, there are about 1,300 pictures; in the new Pinacothek, at Munich, there are about 1,270; in the gallery of the Belvedere, at Vienna, there are upwards of 1,300; in the Imperial Gallery of Florence (Degl' Uffizi), there are upwards of 1,200, and about 500 in the Pitti Palace. At Amsterdam, there are 386; at the Hague, in the Museum, there are 304, and 173 in the King's collection. The collection of Antwerp contains between 300 and 400; but they are not yet catalogued. There are 1,406 in the Louvre, exclusive of the Spanish pictures; in the Museo of the Prado, at Madrid, there are 1,833; and the celebrated gallery of Dresden contains about 1,850 pictures. At Versailles there are about 3,300 works of art, chiefly paintings, and almost exclusively illustrative of French history. The Borghese Gallery, at Rome, which is the best and largest private collection in Europe, contains, according to Melchiorri, about 1,700 pictures. In the Grosvenor Gallery there are 143; in the collection of the Duke of Sutherland, 323; in the Bridgewater Gallery, belonging to the Earl of Ellesmere, there are 218. The largest private collection in England is that of Burleigh House, Northamptonshire, belonging to the Marquis of Exeter, in which there are upwards of 600 pictures."

and the mouldings, which are rightly enough placed when serving for imposts, should hardly have been repeated where they support nothing. The windows are obviously not intended for the display of goods, being of narrow lights and far apart; but though we do not think that shop fronts, as generally contrived, are desirable additions in any work of architecture in which good effect is contemplated, a little increase of size in the windows, in a building of this nature, would be admissible. We believe a contrary opinion is not unfrequently maintained; but the use of large windows does not necessarily imply bad architecture, or there might be some reason to moderate our advocacy of the repeal of the window tax. The interior has the arrangement, which has now become common in establishments of this nature, being lighted from the top, the upper story forming a gallery round the opening. Mr. J. E. Gregan is the architect.

Messrs. Gregg's warehouse, near the back of the Branch Bank of England, is also worthy of examination, and its internal arrangements have been referred to, as presenting a model for this class of buildings. It has iron columns and girders, with brick arches; and, as a provision against fire, there is a cistern occupying the whole area at the top of the building, from which a pipe is carried down the staircase, having a canvas hose and mouth-piece at each landing. The cistern is lined with a composition of the nature of asphalte, termed "Paraqua," which, we believe, was used at the theatre in Manchester, but in the present instance has not been quite efficient. The building contains many contrivances which might be advantageously consulted in arranging similar buildings, amongst which is an ingenious apparatus for shooting the pieces of calico from top to bottom of the building, or, by an arrangement of doors, from one floor to another.——Opposite Messrs. Gregg's warehouse we noticed a building in progress in the Gothic style, and which, we were informed, was also for a warehouse.——The addition to the Exchange is progressing rapidly, though not far advanced at the time of our visit. We believe a new front is intended towards St. Anne's-square, with a portico, the order being the same as that of the old building, Grecian Doric. Mr. Alexander Mills is the architect. —— Mr. Cockerell's Branch Bank of England is no doubt known to our readers from illustrations, and we merely stop to mention it as one of those buildings, of which it is very difficult to give a proper representation. Its massive effect, and the character of its windows, appeared to us particularly suitable in reference to its purpose.——The new streets lately opened, one called John Dalton-street and the other Corporation-street, are more satisfactory to us than many new streets in the metropolis. In John Dalton-street is a good building by Messrs. Dickson and Breakspear; and Corporation-street, although with a little sameness, has some good buildings, whilst all are great advances upon what had been common previously. Red brick is the material employed, and all the windows have stone dressings.——Having heard much of a fountain that had recently been erected in Smithfield Market, we waded through mud and offal to look at it, although somewhat dubious about the result of the examination. At length we found "a fountain of living water," and "a lamp which gave light at night," but very different, we hope we may say, to what may be expected of the Caxton monument, of which so little has been heard lately. In the centre of a very dirty basin was a pedestal, ill-designed and clumsily carved, supporting a small Corinthian column, by way of post, and a large lamp. Water was projected by lions' heads, one on each side the pedestal, and—parodying the words of a poet—

* * * * * "the sound
Amaz'd the gazing rustics rang'd around;
And still they gaz'd, and still the wonder grew,
That each small head should carry all it threw."

Altogether, the fountain is as bad as any we know of, and that, in England, is saying a great deal. The town-council should not procure a design for any work, even in this out-of-the-way part of the town, from any one but a competent architect.

At Cheetham's College, an interesting building, we hear that restorations have been going on, and also that the cathedral is being decorated. The latter building will require very careful treatment, having been restored at different times by incompetent hands. In the choir much of the old work remains, and the carving of the stalls is of great richness.

Church architecture has changed its character in Manchester as much as in most places; and for some notices of what has been done there lately, as well as for other matters, we may again draw from our notes.

DOINGS IN BRISTOL.

A SCHEME has been submitted to and approved by the town-council, to effect the long-desired end of rendering Bristol a FREE PORT. The day which sees this accomplished should be set apart as a holyday by its denizens: it will be a fresh starting-point for this important city. A good spirit is evidently awakening here, and will produce important results. The Frome, heretofore a reservoir of putrid matter, which has annually killed at least a hundred persons, has been covered over (the measure confers honour on the present town-council) at an expense of 4,395*l.*

A new church and schoolroom are to be built on a part of the waste land on the Weir known as the Rope Walk. The town surveyor valued the land, which belongs to the corporation, at 500*l.*, but the council, with a wise liberality, agreed to take for it 150*l.*

On another part of the same land, baths and washhouses are to be erected under the direction of Mr. Baly, the engineer of those in London, at the estimated cost of 6,500*l.* By the arrangement proposed, sufficient space is to be obtained in the building for the construction of sixty bath-rooms, sixty-four washing compartments, and thirty-two ironing compartments. The bath-rooms are placed in the front of the building. The entrances to the first-class men's and women's baths are as far apart from one another as possible, at the opposite ends of the front; and those of the second-class men's and women's baths are in the centre. Each bath-room is about 6 feet square, and contains a bath 5 feet 3 inches long, of an average width of 1 foot 9 inches, and 1 foot 11 inches deep. The baths are to be made of cast-iron enamelled.

It is much to be desired that an architect were associated with the engineer in this case, so that the building might be of a less tasteless character than that in London, of which we spoke some time ago. The usefulness of the beautiful is no less certain than the beauty of usefulness.

To Mr. King, Dr. Green, Mr. Visger, and others, the city is much indebted for their efforts in respect of the important movements of which we have spoken.

The Corporation Baths and Washhouses have been very successful. During the past month 7,917 persons bathed, and 7,572 dozens of clothes were washed. On striking a balance of the accounts for the last twelve months, it was found to be considerably in favour of the institution.

CONSTRUCTION OF THE LIGHTHOUSE AT THE PORT OF HAVANA.

IN the month of August, 1844, the foundation for a new lighthouse at the Moro Castle, to serve as a guide to vessels entering the port of Havana, was commenced by the Spanish Junta, and executed under the direction of the corps of engineers of the army. The journal of the Franklin Institute (Philadelphia), contains a translation of an account of it by a Spanish colonel of engineers, from which we condense the following particulars:—

The tower is composed of two parts; the first representing a column 79 feet high, 25 feet in diameter at the base, and 20 at the top.* The cornice of this serves as the floor of a corridor with a circular parapet, inclosed by a grated railing of copper, which surrounds the upper, or second part, upon which the lantern is supported. The first, or lower part, is constructed of hewn stone; the wall being 7 feet thick at the base; vertical in the interior, and sloping on the outside, 30 inches in the whole height. The interior space of 11 feet in diameter serves for a circular staircase, the steps of which are four feet long, 7½ inches high, 19 inches broad at the wide end, and six at the other, or immediately at the spindle, or central column of three feet in diameter, which extends up through the whole height. The stairway begins inside, at 38 inches in the clear from the door, in order to leave an open landing place; the steps being covered with slabs of marble 1¼ inches in thickness, with a moulding which extends an inch beyond the step. The doorway in the lower part of the tower, which gives entrance to the stairway is four feet wide and eight feet high, with pilasters at the sides; and its cornice and frontispiece in the form of a circular arch.

The stairway is lighted and ventilated by three sets of windows, placed equi-distant from one another throughout the whole height. They are four feet high and two feet wide, and in six of them, the lower part of the niche, or recess in the wall, which forms the window, is level with the steps, and serves as a landing, or resting-place. Below the stairway, and at the level of the lower floor of the tower, is a spacious room, inclosed by a wooden railing, which is used as a place of deposit for oil, and the more heavy and bulky articles used about the lighthouse.

At the height of 63 feet 9 inches, the stairway which has been described terminates in an apartment called the attendant's room, 12 feet in diameter, and 12½ inches in height, covered by an arch two feet thick in the crown. This chamber, lined with marble, is intended for the two persons who have charge of the light during the night. It is furnished with windows and the requisite conveniences for containing a supply of lamps, funnels, wicks, oil, &c. &c., having a staircase of mahogany, with a balustrade attached to the wall. The breadth of this stairway is 24 inches; the steps are a foot high and eight inches broad in the middle; it leads, through an opening left in the arch, to the platform, or upper part of the lower edifice.

Upon this platform is erected a second structure, consisting of a circular wall of hewn stone, 2½ feet thick, 8 feet high, and 11 feet 7 inches in its interior diameter. The latter dimensions are determined by the base and diameter of the lantern, which, as has been before said, rests upon it. In this second part of the tower there is a door 6 feet high by 27 inches wide, to admit of egress to the platform, or corridor, above the cornice.

The total height of the tower is, therefore, 87 feet, which, added to the elevation of its base above the level of the sea, 65½ feet, and to the height of the light within the lantern, 5½ feet, will make the total elevation of the light, 158 feet; the horizontal tangent of which is 13½ marine miles.

The glass lantern, which incloses the light, rests upon the circular wall built above the cornice of the tower, and has the figure of a prism of sixteen sides. It is covered by a cupola of copper, with a chimney in its top to carry off the gases proceeding from the combustion; the whole being surmounted by a weathercock.

Data for determining the proper Thickness for the Wall of the Tower.—The most interesting and nice question which first presents itself, in considering the construction of a very high tower, is to determine the thickness which its walls ought to have in order to insure the necessary stability, and to resist successfully the forces which have a tendency to destroy it. This is a general principle in all kinds of edifices; but in high towers, the base of which bears a small proportion to their height, it is necessary to consider another element of destruction, more powerful and active than the force of gravitation; namely, the violence of the wind in those great hurricanes which are so frequent on sea-coasts, and particularly among the Antilles.

In the calculation of this force, as in all physico-mathematical questions, the data are, for the most part, derived from experiments, of the accuracy of which we cannot be precisely certain; but which have been found sufficiently worthy of confidence when applied to similar structures which have, for many years, resisted every kind of force; and in this case there is nothing more logical, or natural, than to take the result of these calculations as established data of comparison with reference to our own case.

The data upon which we should reckon in calculations of this kind, founded upon numerous experiments, are as follow:—*First*,

* The Spanish foot here used is equal to 11·1 inches, and the cana, or yard, is 373 inches.

The pressure upon a superficial metre, when the wind has a velocity of 50 metres per second, which is that of the greatest hurricanes, is equal to the weight of 275 kilogrammes, or about 386 pounds to the square yard. *Second.* The action of the wind upon a vertical cylinder is reduced to two-thirds of the force which it exerts upon a central vertical section of the same cylinder.

To apply these rules to the stability of a tower composed of a single stone in the form of a right prism with a square base, we should multiply the superficial area of one of its sides by 386 pounds; and this product being multiplied by half the height of the prism, will give the momentum of the wind's force. In order to determine the momentum of resistance, the total weight of the tower should be multiplied by half the width of its base. Dividing this product by the first obtained momentum of the wind, we have the expression of the *absolute stability* of the edifice with regard to the action of hurricanes.

Towers are composed of numerous courses of cut stone, the adhesion of which affects the stability in proportion to the decrease in the size of the blocks of stone used. If we suppose this adhesion to be nothing in a wall composed of courses of stretchers and ties, the fracture caused by the force of the wind will not be horizontal; but (as in retaining walls) according to an oblique section, the inclination of which is determined by the maximum of relation between the force of the wind and the momentum of weight of the solid above the section. But it should be observed that in most high towers, the adhesion of the cement and the arrangement of the materials is such that the section of rupture is less inclined than in ordinary containing walls, and if, in addition to this, we also consider that the results which we seek are of comparison between our tower and those whose stability has been already tested, by having for a long time resisted, without injury, every kind of force; the supposition that the section of fracture would be horizontal should have no sensible influence.

The determination of the section of most easy fracture offers a problem of minimums, the direct solution of which, in general, requires very tedious calculations; but fortunately the position of that section is apparent, in most cases, at the first glance of the eye, or may readily be determined by a few trials.

In case the tower should have the form of a truncated cone, like that of which we are treating, if it should ever yield to the force of the wind, it would be twisted off above the offset of its base, in the direction opposite to that from which it receives the force, and its being broken above the offset would be because the arm of the lever of resistance, instead of being equal to the radius of the section of rupture, is somewhat less.

These principles being established, it is known that, in order to give great stability to a circular wall in ordinary structures, it is sufficient to make the thickness a twelfth part of the height; consequently, having to raise our tower to a height of 80 feet, a thickness of 7 feet was enough for the wall; but as the tower is not an insulated wall, but has within it a circular stairway, which binds and fastens together all its parts, and moreover, as the consideration of a convenient situation for the illuminating apparatus required that the upper part of the tower should be only 20 feet in diameter, we were able to start with 7 feet at the base, and to diminish gradually to four and a half at the top, with the advantage of an exterior slope of two and a half feet in the whole height, which also adds to its strength.

Having established these data, it now remains to examine whether, with these dimensions, the tower possesses as much, or greater, strength than others similar to it, which have been built many years, and have resisted, without the least damage, the force of the greatest storms, and I say it ought to be stronger: 1st. Because the terms of the comparison which we seek are derived from towers built in Europe, where hurricanes are neither so frequent nor of such long duration as in the Antilles; and, 2nd. Because the tower which we have constructed, from its peculiar situation, has to sustain not only the force of the wind but the shock of the waves, although this is somewhat diminished by the tower being placed twenty-two yards above the level of the sea.

For comparison, we will take the signal tower erected in 1715, at the port of L'Orient, the form of which is similar, on the whole, to that constructed at the Moro, and which has withstood, until the present time, without injury, all the force of the storms.

Stability of the Tower at L'Orient.—The result of a calculation with regard to this tower shews that the relation of the resistance to the pressure is 7·4; that is to say, the resistance is 7·4 times greater than the pressure. Let us now see what result will be obtained by an analogous calculation with regard to the tower at the Moro.

Calculation of the Stability of the Tower at the Moro.—The content of the truncated cone which constitutes the lower part, is 31,174 cubic feet. The interior cylinder, which contains the staircase, is 11 feet in diameter and 34½ in circumference; the area of its base, 95 square feet; and its content, $95 \times 78 = 7410$ cubic feet. Taking this from the total solid content, there remain 23,764 cubic feet for the solid content of the circular wall of the lower part of the tower. The cylindrical column in the centre of the circular stairway contains 450 cubic feet, and the stairway itself 306; so that the total solidity of the masonry in the lower body of the tower is 24,520 cubic feet, or 908 cubic yards. Adding to this 3 cubic yards for the projection of the cornice, and subtracting 36 yards for the apertures left for doors and windows, there remain 875 cubic yards of masonry. As the attendants' room, in the lower section of the tower, is a foot larger in diameter than the interior space occupied by the stairway, it follows that the amount of masonry, which on this account has been rather over-estimated, will be made up by the arched ceiling of this room, which has not been taken into the account.

The solid content of the circular wall which forms the upper section of the tower, upon which the lantern is placed, is 27 cubic yards, deducting the opening for the door; so that the whole amount of solid masonry is 902 cubic yards.

A cubic yard of the masonry used in this tower weighs 85 arrobas (25 pounds each), and the arm of the lever of resistance being 4 yards (a little less than the radius of the base), it follows that the power of the resistance will be $902 \times 4 \times 85 = 306{,}680$.

A central perpendicular section of the lower portion of the tower contains 195 square yards; of the upper portion, 13; and of the lantern, 26; presenting a total sectional superficies of 234 square yards. The centre of gravity of these three superficies is found at 13 yards from the base of the tower; consequently, the momentum of pressure from the wind is $\frac{2}{3} 386 \times 234 \times 13 = 31{,}504$ arrobas, and the ratio of the resistance to the pressure

$$= \frac{306{,}680}{31{,}504} = 9\,7.$$

By this result it will be seen that the tower at the Moro has a stability equal to nearly one and a half times that of the tower at L'Orient, which was taken for comparison, and consequently that its dimensions are sufficient, although indispensable for the reasons already mentioned, to warrant the undertaking of its construction with entire confidence.

Details of the Construction.—Foundation.—As the tower is 25 feet in diameter at its base, a circle 28½ feet in diameter was traced around the centre of the area to be occupied by it; so that the excavation for the foundation being larger than the body of the tower, a berm, or offset, of 21 inches, would be left by the extension of the foundation wall beyond that of the tower itself. The excavation was carried through the surface soil down to the rock which underlies the glacis of the Morillo, which was reached and laid bare at an average depth of 15 feet.

The rock presented an irregular surface, in consequence of which, together with its extreme hardness, the operation of cutting it down to a level would have been very expensive. It was therefore deemed preferable to construct the foundation by steps (*en escalones*), using blocks of stone of the best kind, disposed in circular horizontal layers (*formando anillos en capas horizontales*), properly placed, and the joints filled with a mixture of lime and sand; taking care, as in all masonry of hewn stone, that the joints of each layer should be covered by the course immediately above it.

The foundation is 9½ yards in diameter by 5 in depth, and consequently contains 355 cubic yards of masonry. The cost of its excavation and refilling was 1,554 dollars, being 4·375 dollars per cubic yard.

The lower part of the Tower.—Upon the level top of the basement, or foundation, the first layer of stone forms a solid floor over the whole, 25 feet in diameter; its outer border being vertical and forming a projection or socle of 9 inches around the tower, as well as a step of the same height, for entrance into it. The building is then continued to the requisite elevation by successive courses of 18 inches in height. In order to give an exterior slope to the wall, and consequently to diminish its thickness in due proportion, the width of the blocks in the interior courses was gradually contracted, while those on the exterior were continued of the same breadth, so that the vertical joints might recede gradually towards the interior, and the masonry be well united together; thus avoiding the defect which would result from an equal diminution in the breadth of the blocks used in both the inner and outer faces of the wall, in which case, the vertical joints of each course would continue to be one above another, thus forming two distinct walls, without further connection than that of the extending ties.

The circular stairway is composed of entire blocks of stone, which are inserted six inches into the wall, each of them forming two steps, together with the corresponding part of the central column, or nave, of the staircase. It was carried up at the same time with the wall of the tower, in order to insure the proper connection and binding together of the work, and also served for use during the construction of the building; the order of proceeding being first to set the block of stone which formed two steps, and then to lay the corresponding course on the wall, and so on successively.

In the dome which covers the attendants' room, the precaution was taken, in order to avoid the least displacement, to fasten all the arch stones of the second and third courses, together with those of the first, with iron clamps, one and a half inches thick by three inches wide, let into the arch stones and fastened to each of them by a bolt, which passes through two-thirds of their thickness, well secured with lead.

Materials.—The stone used in the construction of the tower was taken from the quarries known here by the name of *playa de chivos*, immediately at the point where the tower stands, and preferable to the stone found at any other place in the vicinity, because, although not of the hardest quality, they are still sufficiently so, and of a more equal and homogeneous texture than the others.

The lime and sand employed were both of excellent quality; the former made of a very hard and clean stone, and the latter containing no saline matter. The mortar was made with great care, composed of two-fifths of lime and three-fifths of sand, mixed with fresh water and well stirred, so as perfectly to incorporate the ingredients.

After the completion of the edifice, in order to preserve it from the effects of moisture and of nitrous salts, inasmuch as the stone, as already stated, is not of the hardest kind, it was covered, both on the interior and exterior surface, with a very thin and well laid coat of painted stucco.

Masters and Servants.—In Birmingham, last week, the assistant of a photographist brought an action to recover wages due. He had agreed with defendant "to work for and serve him diligently and truly, in the photographic art, for the term of three years, from the 24th of July, 1846, at a salary of three guineas per week;" and in the agreement was also a clause, that the said plaintiff "should not work for any other person or persons during that period." It was proved that he had in his over-time taken portraits on his own account; and the judge decided that he could not recover, inasmuch as by law his master was entitled to his whole services, and he was not at liberty, during the continuance of the agreement, to take portraits for himself and receive the money for them, or for any person other than his master; and that by doing so he was in fact enticing away the customers of his employer, to his manifest injury.

FRENCH GOODS.

NEARLY all the foundations are in for the Louis-Philippe Hospital, close to the church of St. Vincent de Paul, in Paris, and 800 workmen are employed there. The inclosing walls include an area of 34,000 *mètres*.—It is proposed to erect a monument to Pius IX. in Paris, and the corporation appear favourable to the project.—A curious disagreement has arisen respecting the restorations at the Hôtel de Ville. The municipal council have refused to allow for the sum of 1,600*l*., expended in sculpture for the principal staircase, and the Minister of the Interior has confirmed their decision, leaving the amount to be defrayed either by the *préfet* or the architects. The *préfet* has stopped the payment of the money due to the architects for their services, with the view, probably, of trying the question with them. We are not aware of the circumstances under which the sculptures were ordered.—At Orleans a subscription has been commenced for the erection of an equestrian statue to Joan of Arc. And in Périgueux (Dordogne) a statue is to be raised in honour of General Daumesnil, surnamed *La Jambe de Bois*.—On the 3rd of last month the first stone was laid of a Thermal Hospital for the troops, at Amélie-les-Bains (Pyrénées-Orientales), proposed in 1835, decided on in 1841, and only now commenced: it will be finished in 1852, and will contain 500 patients. The *Moniteur des Architectes*, after stating that the plans have been arranged by M. Puiggari, engineer, remarks that it is to be regretted that the Minister of War has not thought proper to appoint a qualified *architect*, to co-operate with the engineer in the production of a building which demands architectural conditions more elevated than a barracks or a magazine. We have already expressed the same opinion so strongly in a nearly similar case, that it is unnecessary for us to say, we fully agree with our very respectable contemporary on the other side of the water. In respect of the proposed baths in Bristol, mentioned in our present number, we have thought it necessary to repeat the remark.

CONSTRUCTION OF CHEAP SEWERS.

CHESTER AND MANCHESTER.

SIR,—That cheap sewage is a subject of paramount importance to the public, no person for a moment will doubt; and unless science is called in to aid the efforts now being made for the sanatory improvement of towns, we shall be doomed to proceed upon the same imperfect system that has been hitherto pursued, and the public will be heavily taxed for ignorance and incompetence.

Unless a cheaper system of sewage is adopted than has hitherto prevailed, many of our towns must necessarily be prevented from having the important advantages of good drainage, on the grounds of the enormous expenditure that will be required, and the heavy burthen inhabitants of many towns are now labouring under.

It has been asserted, that cheap sewage originated in Manchester, but this I deny; and it may not be uninteresting to some of your readers to know the prices actually paid in Manchester for sewers of different capacities.

Dimensions.		
42 in. × 24 in.,	17s. 3d.	per lineal yard.
36 in. × 24 in.,	15s. 4d.	,, ,,
33 in. × 22 in.,	15s.	,, ,,
30 in. × 20 in.,	14s.	,, ,,
24 in. × 18 in.,	13s. 4d.	,, ,,
20 in. × 15 in.,	12s. 6d.	,, ,,
15 in. × 12 in.,	8s. 3d.	,, ,,

Maximum depth, 10 feet.

These sewers we are enabled to construct in Chester as follows:—

Dimensions.			
42 in. × 32 in.,	11s.	per lin. yd. ;	ordinary earth.
42 in. × 32 in.,	15s. 2d.	,,	rock.
36 in. × 28 in.,	9s. 6d.	,,	ordinary earth.
33 in. × 25 in.,	8s. 6d.	,,	,,
30 in. × 22 in.,	7s. 9d.	,,	,,
24 in. × 18 in.,	6s. 6d.	,,	,,
20 in. × 15 in.,	5s. 6d.	,,	,,
15 in. × 12 in.,	4s. 9d.	,,	,,

Maximum depth, 12 feet.

This difference arises chiefly from the exercise of economy in the use of material and labour, as the prices of these in the respective towns do not vary 15 per cent. In my former communication, I stated the cost price of the tubular sewer, 20 inches by 15, to be 6s. per lineal yard, *exclusive* of excavation, but I find we can execute it in 4½-inch brickwork much cheaper, our sewers, as you will perceive, costing us only 5s. 6d., including excavation to the average depth of eight feet. The general shape of the sewers in Manchester is either a semi-circular or egg-shaped invert, covered with flags, as if the properties of the arch were not well understood, or could be rendered available. In Liverpool, prices are still higher, and modern Birkenhead partakes a *little* of their extravagance. A system of flushing is also to be economically applied to the sewage of Chester.

It has been broadly stated that sewers composed of 4½-inch brickwork are inadequate for the purpose intended, but when we calculate upon the strength of brick as applied in sewers, more particularly if radiated, the objection is utterly worthless, and arises from a want of knowledge of the properties of materials, and the power they possess to resist compression.

We have a sewer in this city 3 feet 6 inches by 3 feet, of 4½-inch brickwork, that has been built fifteen years, and I had it opened the other day, and found it in as perfect a state as when first constructed, although composed of bricks of the ordinary shape, viz., rectangular, and I have not the slightest hesitation in saying that sewers may be constructed with the greatest safety, of this capacity and strength of material.

As to the durability of bricks or tiles for the purposes of drainage, we have the strongest proof, Roman Tiles having repeatedly been dug up, which must have been buried in the bowels of the earth upwards of 1800 years, and in a perfect state of preservation, with the stamp of the LEG. XX. VV. clearly impressed upon them, the thickness of the material being only one inch. The Romans in the midst of their conquests seem to have had time and inclination to study the subject of drainage, and other sanatory regulations, proofs of which they have left at all their principal stations. Britons, with all their boasted intelligence and civilization, lack those qualities so eminently displayed by those enterprizing people, or our towns would not exhibit, as they now do, an almost total disregard of drainage and cleanliness.

B. B.

Chester.

MEETING OF MECHANICAL ENGINEERS AT BIRMINGHAM.

A QUARTERLY meeting was held on 22nd ultimo at the Institution-rooms, Temple-buildings, Mr. G. Stephenson, president, in the chair; when a discussion took place on the merits of various mechanical and engineering inventions for the safety of railway trains, described or presented to the meeting. Mr. Stephenson introduced the subject of his proposed safety-break, with plan and description. He alluded to the models or plans of other proposed breaks which he had examined, but did not think any of them would work well. He was obliged to admit, however, that the invention of Mr. Alfred Knight, of Birmingham, son of the borough treasurer, [the ingenuity of the *idea* of which, apart from its mere mechanical adaptation, we have already noted in a recent impression of THE BUILDER] 'was certainly a very ingenious contrivance. But he thought it also was too complicated, as there were, no doubt, too many wheels. The inventor had got a very ingenious mind. But he would observe that an ingenious mind was very dangerous to a mechanic. When they wanted a really useful invention, simplicity was everything.' [No doubt some one may now readily take the hint from the suggestive idea of compelling the very evils to be counteracted—namely, the rotation and progressive motion of the wheels of a train of carriages—to minister to their own counteraction, and arrest *themselves* at any moment midway in their own career; and such a one, so taking the hint, may even endeavour to appropriate *the idea* as his own, by merely realizing it in other or simpler mechanism; but that is probably the only *danger* to be dreaded from the highest and freest exercise of an inventive genius which ought rather to be encouraged than thus repressed; inasmuch as its real value and merit ought not to be confounded with any mere supposed or actual demerit or defect in the mechanical application of its own invaluable and suggestive *idea*,—an application which it really requires but a second-rate and comparatively ordinary mind to improve upon or simplify,—although, as we have said, there certainly is a risk of such an inferior mind ultimately claiming to itself the whole merit, both of idea and of mechanism, by sagaciously confounding the one with the other, while merely suggesting improvement or simplification of the mechanism.]

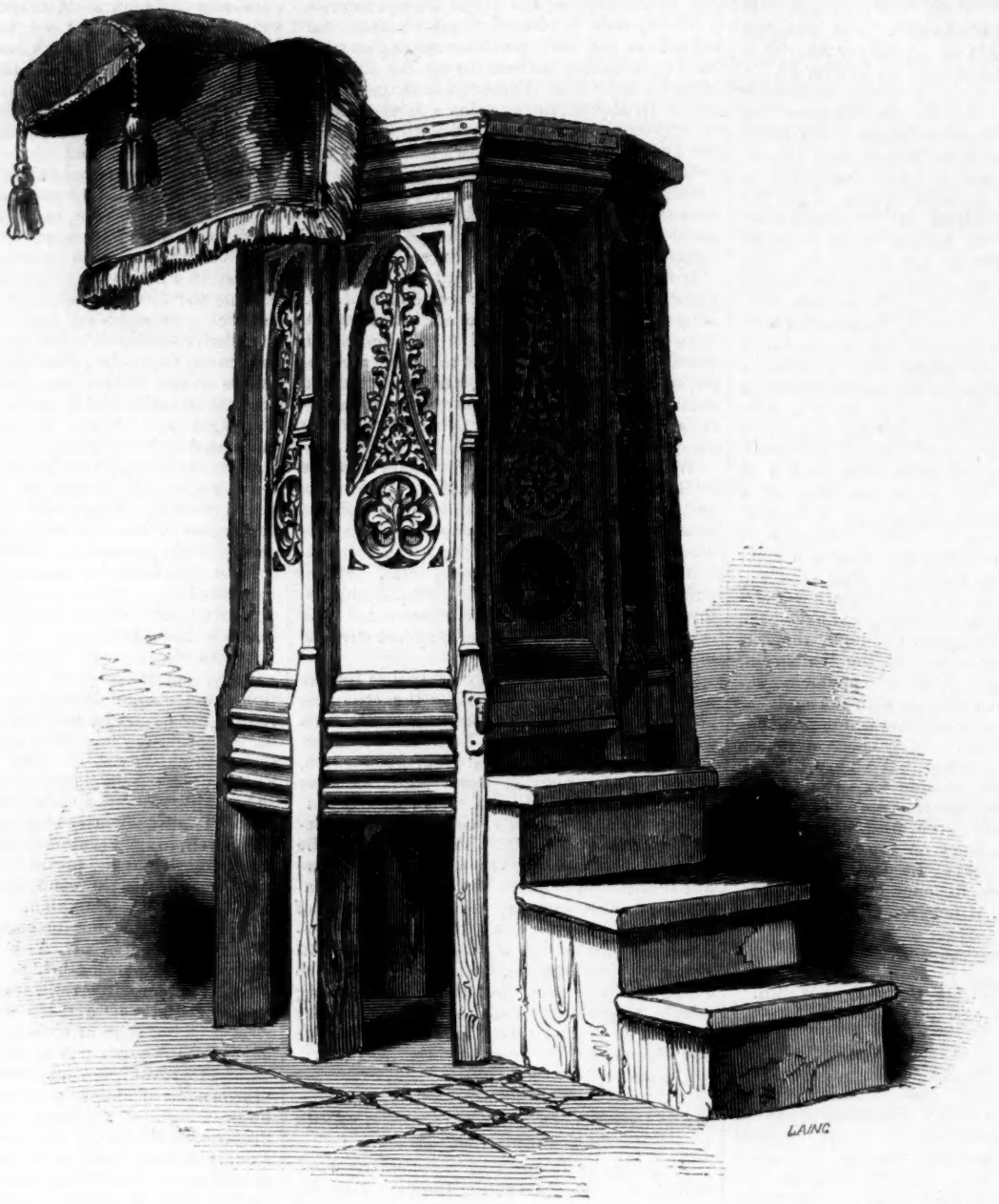
The discussion on the subject of breaks was ultimately adjourned till next meeting; and a paper, by the president, on the communication between guard and engine-driver, was then read, and various plans (most of them already noticed in THE BUILDER) were discussed, including the speaking-tube for communication between passengers and guards, but which the president considered to be 'almost too absurd to comment upon,' as, even though practicable, 'there would always be some timid persons alarmed at mere trifles, and would be causing stoppages and delays innumerable.' [How could that be? Strange to say, that is an objection which applies to almost any scheme but this one, whatever may be its demerits otherwise, the very design of it being to enable passengers to communicate with guards, *and guards with passengers, without stopping the train at all, unless the guard* should be himself convinced there was sufficient reason.] The president's own recommendation was a modification of the plan already in practice on the Austrian lines, and repeatedly suggested, namely, guards facing the train in both directions, and communicating signals, such as a red flag by day and a red lamp by night, without any provision for oral or other communication with passengers in cases of fire, such as nearly deprived us lately of a bishop, or of sudden illness, death, insanity, or any thing else. The superiority of a powerful whistle over a bell, in the event of either being adopted, was suggested by the president, and the electro-magnetic circuit, in connection with it, was proposed by Mr. Crampton.

A long and elaborate communication was afterwards read by Mr. A. E. Cowper, on an improved suspension-bridge, of a peculiar form, for carrying railways, and which he characterised as 'a piece of boiler-maker's work,' rather than of civil engineering. The object of the paper was to call attention to a mode of preventing such bridges from being 'thrown out of shape, or in any way distorted by the weight of a passing load;' and this he proposed to do chiefly by 'the plan of making a chain of such depth as to include any alteration in the curve of the strain that might take place.' But the limits of the present article prevent us from here doing anything like justice either to the idea or its development. The president and others, in discussing the subject, remarked, that if the invention could practically carry out the intentions of Mr. Cowper, it effected a most important desideratum in railway engineering.

The good to railways from such discussions was then adverted to, and a notice of motion made for eight meetings a year instead of four, when the meeting adjourned till 24th current.

SURREY AND KENT COMMISSION OF SEWERS.—A court was held last week, when the chairman of the Committee of Accounts brought up the statement of the receipts and expenditure for the last half year. The income amounted to 28,666*l*. 16s. 11d., which included balance in hand last April, 5,630*l*. 0s. 3d; loan, 8,500*l*.; rates, 11,354*l*. 15s. 2d.; contributions from those requiring drains, &c., 2,231*l*. 19s. After paying all expenses, there was a balance in hand of 9,054*l*. 17s. 10d., exclusive of 8,000*l*., put out to interest. Mr. Drew, solicitor to the court, stated that he had received instructions from the Sanatory Commission to send to the commissioners an account of the number of attendances of each commissioner, from the year 1841 to the year 1846. It was stated that some of the commissioners had attended only twice in the course of the year.

TIMBER UNDER HEARTHSTONES.—The recent fire in Drummond-street, Euston-square, when a poor lady was miserably burnt to death, has been ascribed to ignited cinders falling through a crack in the hearthstone. We have, ourselves, known of more than one fire caused in this way.



WOODEN PULPIT—WENDEN CHURCH, ESSEX.

WOODEN PULPIT.—WENDEN CHURCH, ESSEX.

A FINE example of the wood carving of the fifteenth century, and an interesting specimen of an early pulpit, is afforded by an engraving of that in Wenden Church, Essex, a primitive structure, which exhibits traces of an early Norman foundation. The pulpit has nine sides, seven of which are carved alike in each panel. The door occupies two sides, and has an extra quatrefoil inserted in the carved panels. The pulpit is in fine preservation, and the carving singularly perfect, and sharp in its outline. It stands 5 feet 7½ inches in height, and measures one foot across the top of each panel, which, following the outline of the pulpit, decreases upwards.

LONDON IMPROVEMENTS.—A bill was brought into the Common Council on Friday in last week, under the powers of the City Improvement Act of 1847. It proposes to raise 300,000*l.* for improvements from Cannon-street to St. Paul's; and 200,000*l.* for other improvements not yet determined on.

BUILDING SOCIETIES.—It is said that the number of building societies in England and Wales now amounts to 1,200.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE opening meeting of the present session was held on Monday evening last; Mr. S. Angell, vice-president, in the chair. A long list of donations having been announced, Mr. W. P. Griffith was admitted a fellow, and the certificates of various candidates were read.

The Chairman said, that as that was the first meeting for the session, he would intrude on their attention for a few minutes. He much regretted that the president, Earl de Grey, was unable to attend; his lordship's communications, however, shewed that he still felt the same interest in the prosperity of the Institute as he had ever exhibited. The chairman had to allude with regret to the loss of a colleague, Mr. Allen, who, although a junior member, had made considerable advance in his profession. He felt bound also to allude to the death of Mr. Cottingham, although he was not a member of the Institute: it was the desire of the Institute to pay tribute to ability, whether in their own ranks or out of them. Notwithstanding the financial difficulties, there were many new buildings rising in the metropolis, and although they were not all original, he thought it satisfactory that such good models were taken as those by Sansovino. The new churches rising were mostly satisfactory, as well in the material used, Kentish rag and Caen stone, as in the design. The sanatory question was also forcing itself on architects: ventilation and drainage called for their careful consideration. In conclusion, he would remind all the members of the necessity of contributing to the general information; many had been travelling during the recess, and he hoped that their sketches and note-books would furnish instruction at some of the meetings. The students, he remarked, would find every facility provided for them, and he hoped they would largely avail themselves of the advantages offered.

Mr. M. D. Wyatt then read a paper on "Mosaics, as applied to Architectural Decoration," which we shall give *in extenso* next week.

Mr. Donaldson, in remarking on the durability of decorations in mosaics, said there were some fine specimens in our country—one he particularly remembered in Leicester; and he thought it was very desirable that we should have a catalogue of all existing specimens in England. It was much to be regretted, he thought, that our royal family regarded with such little interest the tombs of their ancestors in Westminster Abbey, some of which display fine mosaic decorations, and, if properly restored, would serve as a school for us, without going to Greece and Italy. He was compelled to say that a better feeling was evinced in France.

GROUPS IN CARTON PIERRE, IN LYCEUM THEATRE.

From the scale of the view we gave of the Lyceum Theatre in the Strand, the groups of boys and foliage, bearing the lights, were scarcely represented so clearly as they deserve. In our present number, therefore, we add drawings of them on a larger scale. The upper engraving shows the figures which are seated on the entablature; and the lower represents one of the groups encrusting the main columns, on a level with the front of the first tier of boxes above the dress circle. As previously stated, these are formed of *carton piérre*, and painted and varnished to appear like china, etch gilt.

We have already spoken of the artistical skill displayed by Messrs. Jackson in the whole of the applied ornaments, modelled and put up here; an after-examination of other works executed by them, has strengthened our good opinion.

WHAT IS HIGH ART?

DECORATIVE-ART SOCIETY.

At a meeting held on the 13th ult. (the opening of the present session), the first portion of a paper "On Art; its distinctions and purposes relatively considered," by Mr. Dwyer, was read. The leading questions arising from the subject, as set forth in the members' circular, were, What is high art? historical art? fine art? &c. Under what conditions do these become identical? and what is the relative value of each for the purposes of decorative art?

Mr. Dwyer introduced the subject by remarking, that amidst the multifarious writings extant upon art, the ambitious tendencies of this or that author in jealously upholding the dignity of a particular class of artists, or in vaunting forth the advantages arising from a given system of practice, would appear to have been the main considerations. For the most part, however, we should find that the study of nature is held to be the starting-point from which we are to be led away into a complexity of technicalities and metaphysical reasonings. As in writings, so it would be found in works. The architect, sculptor, painter, and poet, each attempts a mysterious grappling of mind with matter of fact, occasionally developing a high degree of intellectuality with much that is either unmeaning or not easily understood. Then, he observed, there is the continually varying misapplication of technical terms in art, arising from an absence of principle in giving fixed names to definite things, which renders it a matter of difficulty to understand the proper limits and distinctions which exist between even such terms as high art, historical art, fine art, &c. He had sought for precise definitions from living artists of good repute and long standing, but obtained none; he had heard much of reasoning, in small circles as it were, which convinced him that a more general and comprehensive knowledge of art in its various phases would be useful, indeed, among its professors. The ordinary criticisms of the day upon art were to him vague and meaningless, and would generally, if divested of doubtful technicalities and expressed in plain English words, expose their flimsy construction. In tracing the progress of art, the reader felt that it had been strangely handled, not alone from the restless ambition of some of its votaries and professors, but still more so by the wanderings of others after the indefinite. Princes and popes have at certain periods entertained a deference for its works, which at other times is wholly lost to observation; but he considered that the attention at present directed towards art, throughout Europe, would probably promote an unprecedented Progress. The spirit of popular agitation, which the Corn Laws now no longer engross, might attach its epidemic influence and searching powers to the arts in our country, with advantage to all. Nevertheless, he held art in itself to be capable only of slow progress, simply because that must arise solely from a succession of improvements in imitative skill. A parallel to the present demand for variety of style and character had not, he said, existed in any previous period. In painting, sculpture, and architecture, we may learn to discover distinctive features marking a period, and most clearly shewing the development of progression. Mr. Dwyer sustained this argument, by contending that the sameness of treatment in the works of most artists testifies to the tenacity with which copying or imitation clings to all, and that therefore it is essential to reflect and know, how far the different schools of art have relation to each other in respect of imitation,—how much an artist has been indebted to previous examples,—before we can adjudge to him a qualitative rank. The reader then enumerated celebrated works by Greeks, Romans, Italians, Venetians, French, Flemish, and Dutch, which, he maintained, were in harmony with the tastes and moral dispositions of the respective nations at the time they were produced, and also that art is in a great measure localized—dependent on certain rules, as developed by existing specimens, and by the position these held in the public estimation,—that it is essentially a thing of time, place, and circumstance. By judging of works of art upon a particular consideration of beauty, and by admitting one *class* of production as superior in rank to another, without reference to a comprehensive view of art generally, a great injustice had, he maintained, been engrafted on our received opinions upon art. There was, it was said, a strong resemblance in the results, to the choice of an inexperienced person, between one watch, having inferior mechanism in a gold case, and another containing good works, in a silver one—when the gold case was selected. It was unfortunate for art that its votaries had been too frequently influenced by a gold case. Distinctive ranks in the departments of art, the reader contended, were a great evil, and to equalize them would be a great good achieved. Until the difficulties attendant upon the operations of art are understood, and unjust prejudices removed—until painters in oil, water, encaustic, and fresco, cease to disparage each other's work, and to exaggerate the importance of their own, until all aristocracy in practice of art shall be dissipated, and art, in humble garb of plaster and clay, be looked upon as kindlily as if in marble, until some new energy shall have swept away these prejudices, as unreasonable as unjust, and a combination of artists in one emulative course of comprehensive inquiry and dispassionate reasoning, shall contribute to that one great purpose called art—we must not, it was contended, look for a positive and marked progressive feature to be developed in our times. It was then explained, that art being essentially based upon ideality, with an accurate presentment of effects in form and colour, after nature, is constituted and regulated by certain principles in harmony with the prevailing taste, education, or fashion, so as to excite pleasing emotions; and that it is therefore necessary to specially advance education and train the mind, before the really beautiful in art can be properly appreciated, or the genius evinced receive a just and fair criticism. Several instances were referred to, shewing the power of art in expressing clearly and intelligibly to all whatever sentiment it is intended to impart,—as the "Laughing Faun" and the "Dying Gladiator," in sculpture; or the "Creation of Adam," by Michelangelo; the

GROUPS IN LYCEUM THEATRE,

MODELLED BY MR. W. JACKSON.

"Transfiguration," by Raffaelle; and the "Last Supper," by Leonarda da Vinci, in pictures. These examples, it was said, testify to a mental or reasoning ideality, combined with a skill in depicting the essence of things material, and should therefore rank far above imitative skill in the abstract. Ideality is yet more severely tasked in connecting the several ideal embodiments into a grand whole, or complete picture, as in the "Last Judgment," by Michelangelo. Art such as this, he said, might be called *high art;* but the qualification ought not to be attached to the works of an ordinary artist, whose vanity leads him to lay a surreptitious claim to take rank under such a banner.

The characteristics of Greek art, it was stated, are quite distinct from the examples last mentioned, although both have received great and well-deserved admiration. The Greeks, however, approached only to a perfect embodiment of physical beauty, without evolving the attributes of the higher powers of mental reasoning: this would arise simply from their progressive refinements being based chiefly on skilful imitation. Art had undoubtedly been extensively encouraged by the Greeks, from the great number of their works; and if, instead of pursuing the *heroic vein*, they had sought to impart a *moral purpose* (expressions to be taken in their broadest sense), then, indeed, would their productions have attained to a truly glorious eminence. It was the reader's opinion that their wonderful skill, when receiving additional purpose and meaning, would have created much nobler works through their embodiment of mental attributes. The frieze of the Parthenon, he contended, while he had the fullest appreciation of its beauties, ought not to be viewed in any other light than as a production in *imitative art*. Nature, he said, had been so faithfully studied and delineated, that very few inaccuracies could be discovered; but he deduced from this and the pervading similarity of features and vacant expression, not only that the *models* must have been of a superior class, but also that the Greek artists had relied upon their powers of imitating objects as they were seen by them.

The reader remarked that there are two distinct kinds of ideality in art,—one addresses the imagination only, and the other goes further, by appealing to the reflective and reasoning faculties. Several examples were then described to shew that *embellishment* had formed the noblest intent and purpose of art in its best periods, and that, while the first artists of the middle ages painted to embellish, we paint to produce pictures.

After some remarks upon Haydon's writings, he submitted the inquiry: What is *high* art? Is it a term to signify something superior in merit? Is it a matter of theory or practice? Can it teach morality or put down vice? Had it a correlative in the sciences, such as high chemistry or high astronomy? He would be glad to learn the proprieties of art from its phraseology, and would continue his attempt in disentangling the subject at the next meeting.

MOVEMENTS OF POPULATIONS IN TOWNS.

It is not uninteresting to speculate on the tendency of towns to extend themselves in certain directions, a tendency resulting either from the favourable character of the position under increase of population, improved modes of commercial intercourse, or the spirit of landed proprietors and builders. As we have already remarked, nothing has had so great an influence over the movement and settlement of populations as that greatest and most remarkable of modern inventions, the railroad. Not only in the immediate vicinity of large towns are these changes strikingly evident, but in the remotest corners a new existence seems to be created, a new impetus to industry and speculation to be given; and men hitherto lulled to sleep and indifference by the dreamy monotony of country life, wake up as it were to new ideas. The gay villa makes its appearance in the distant village, neat, well-garnished shops attract the eyes, the ivy-mantelled tower fast crumbling to ruin is repaired, and even the hut of the cottager, as if ashamed of its ancient hues, smiles under a coating of white-wash.

There can be little doubt that if, on the establishment of a line of railroad, a position remote from the centre of activity be chosen for its terminus, a risk is run of setting up a rival point of activity at a distance from the old, which by its new advantages may be injurious eventually to the others prosperity, and the value of its property generally. The populations will of necessity group themselves around these new centres, and will benefit by the change, not only because they will have at hand such ready means of transit for goods to the most distant parts, but because they will get land at a cheaper rate, houses at lower rent, with the advantages of air and space denied to the mass, who in ancient towns are forced to inhabit dark, unwholesome, crazy buildings, many of which were once tenanted by our better classes.

Nature seems to have pointed out certain situations as better suited for the residence of large multitudes than others. History, again, points out to us in what respect centres of activity have been changed, rendered variable, or been altogether destroyed by the short-sighted regulations of authority, the influence of tyranny, or the avarice of speculators. It does not matter much where great towns ought to have been and might have been; although leaving men free to choose by their own natural instinct, the positions most favourable for the development of their industry would, without doubt, have changed the whole political face of society, and benefited it morally and materially; for every atom of liberty gained through tolerance, however indirect, is a victory to the people in genuine prosperity. It does matter, nevertheless, when great centres of activity have been created or do naturally exist, that they should not be suddenly deranged by new interests or impolitic opposition to progress of any kind, but be allowed to take their fair and legitimate share of the advantages. The introduction, therefore, of improved methods of locomotion, not immediately within their reach, could not fail to be injurious to them, and the application of a remedy to evils once created, is at no time very easy.

On the first attempt to establish a railroad near Paris, considerable opposition was raised to bringing the terminus into the town. The St. Germain Company, impelled by its own interest, naturally sought to obtain a position as central as possible; it was, however, compelled to content itself with its present station in the Rue St. Lazare, instead of being close to the Madelaine. Here it could scarcely be said to be in Paris, inasmuch as, although at some distance within the walls, there was hardly a house to be seen in the vast open plain through which the line now passes. To the south of the town arrives one of the two railroads to Versailles. Instead of being permitted to enter, like its rival, within the walls, so strenuous an opposition was made, that it only approaches them at a very respectful, but most inconvenient distance; and the result has been what might have been anticipated, that the company has failed, and sold its road to its happier competitor. Had the terminus been carried, as was proposed, up to the Pont Neuf, little doubt can be entertained that the utmost degree of prosperity would have followed. Now, however, but not until it had been ruined by its rival, its long-expected continuation to the west of France will be carried out, and then the immense activity that will of necessity be given to it, must necessitate the proposition, and assure the consent of the town authorities in their own interest, to the extension of the line into the interior of the metropolis. In fact, it is clearly evident, that this line must become eventually the principal communication with the west of France, and that when the lines to Lyons and Bordeaux shall have been opened, a junction at Paris will become necessary, and thus the Ocean and the Mediterranean be brought into rapid communication with each other.

The St. Germain Company has foreseen all the immense advantages which its rival to Versailles might have derived, had the line been extended, as it is about to be, to the west. It has become the purchaser of it, and uniting the two under one management, is preparing a junction for them at a place called Viroflay, some six or eight miles from Paris.

The activity with which this company has acquired to itself so many advantages, has excited no little attention; and some have even carried their provisions so far, as to assert that a great movement is beginning, on the part of the population, towards the part of the town touching upon their lines; and that in contemplation of such a move, of necessity, on the part of the inhabitants, the lands in that direction have been bought up as fast as possible by the interested parties. These apprehensions, of the rising of a new Paris by the side of the old one, are much exaggerated. Great as is the movement in the direction alluded to for the moment, it is not greater than might be expected from the increase of population, and from the natural effect of the earlier termination of the lines of the St. Germain Company. When we shall have other lines opened from the east, and the south, and west, we may expect that the vicinity of those lines will display as great activity of change as the first has given proof of.

We have, however, here some half dozen lines united in one; and a junction further proposed of the lines with the great western road; and an attempt made, moreover, to approach and run a cross line into the northern. It results then, that, by reason of the increased facilities accorded by this network of iron, intersecting the west of Paris, having a communication with the sea by Rouen and Havre, on the point of having one with the west of France by the junction at Viroflay, with the prospect of an union with the northern, which is separated from one of its branches by a merely trifling distance, the lands lying within the influence of this network have acquired a value greater generally than those of any other part, and new streets and roads are forming, and buildings rising, with a rapidity almost unequalled.

When, with the advantages of railway communication, with the facility of transporting its productions to various parts of a country, you offer to an industrious population land and houses at a cheap rate, can one be surprised that the offer should be accepted? Paris is becoming every day more and more a manufacturing town; and, as such, will accept with avidity all the facilities which can be presented to it for the transport of its productions. The progress made within comparatively few years is absolutely astonishing, and is not confined to any particular quarter. The fashionable as well as the unfashionable neighbourhoods are invaded by the ateliers of industry, and tall chimneys, vieing with each other in elegance and height, rise up beside them, filling the atmosphere with smoke, and rapidly changing the clear skies of Paris to the melancholy hues of our manufacturing towns.

The manufacturer will look only to the facilities for the transport of his fabrics. He will not hesitate, when offered land at one or two francs a square mètre on which to build his ateliers, to prefer it to paying such immense prices as it costs in the town, where it rises to even 300, 500, and sometimes 1,000 francs the mètre. The buildings, of whatever kind, will be infinitely cheaper of construction, as the materials can be brought immediately by the railroads from the quarries which produce them. From Montoorye, freestone of the finest kind; from Nanterre, rough stones of an excellent quality for ordinary constructions; from Argenteuil, the best plaster; and from the north, coals may be transported to their doors, without entering Paris at all. Thus, the heavy impositions exacted at the barriers will be avoided; and, above all, that most excessive annoyance of the barbarous *octroi*—the inspections which every thing must undergo before being allowed to enter, causing delay to business, trouble, vexation, and expense, as well as injury to goods and property exposed to be hauled over by the agents of authority. These are important considerations for the manufacturer, and he will not fail to profit by any change for the better.

Paris is situated within a natural basin, which presents many advantages, and seems to have pointed it out as the site of a great capital. From the island on which its first inhabitants had congregated, it extended itself to the south bank, on which we find the curious remains of Julian's palace and baths, and then to the north bank, where the noblesse of the middle ages erected some of their fine old hotels. Fashion then led the way westerly, and the Faubourg St. Germain rose. Its glories are now fast passing away; and a new world,—a

world of wealth as well as title, a world of money as well as fashion, a world of greater industry, intelligence, activity, equality, despising the idle dreamings of mere vanity and insane pride, seeking for the truth and reality of things, and not the fictions of life,—is spreading itself over the west and north-west quarters of the town.

This is the direction of the movement, which appears to be embarrassing the contemplations of the authorities. If the movement continues, if those who have had the skill to speculate and profit by it, tempt it with still further advantages, and if the town authorities do not remove some of the unreasonable restrictions which weigh upon commercial industry, will not the result be somewhat injurious to its interests and revenues, and will not the increasing population be disposed to spread itself in the direction most favourable to its interests, its profits, and its health?

If these speculations have some truth in them,—and they are not without a certain gravity,—the stupid old system of the octroi, which the great Revolution destroyed, and Napoleon re-established with all its annoyances and embarrassments to business, will run the risk of being overthrown, not by arguments and theories, but by a material agent, which science and industry have created. The authorities, anxious to preserve their revenues, may extend their barriers to the line of the fortifications, but in doing so they will more than double their expenses, while the manufacturing population may be still free to transport itself beyond that circle.

There is, in short, on the part of the good people of Paris, a disposition to move beyond the barriers, to place itself in a cheaper locality, and out of the reach of the municipal impositions. With the facilities offered for transporting their persons into the centre of the town, by omnibus and railway, they are as quickly at their *bureaux* and counting-houses as if they resided within the *faubourgs*. Why, then, should they not profit by the cheapness of living and lodging, the blessing of purer air and the luxury of a garden; or have two establishments out of town, as well as in the town? Hence, all round the capital, but particularly in those directions most favoured by rapid means of conveyance, buildings are rising by thousands; and yet within the old walls, in excellent situations, exist immense vacant spaces without a house upon them, sufficiently extensive to contain a population as great as that which already peoples the gay and charming city.

PUBLIC PARKS—COPENHAGEN FIELDS.

Sir,—Some years since an inquiry was instituted in the House of Commons, as to the expediency of providing additional parks and places of exercise for the public in the vicinity of the metropolis. The committee to whom the matter was referred stated, in their report, that the then present public places for exercise and recreation were insufficient, and recommended that additional places should be established, indicating, among other places, Copenhagen-fields (for sale at the time) as the most eligible spot for a public park that could be selected. Why this recommendation was not carried into effect I cannot say; but I think that every well-wisher to public health will agree with me, it is a great pity that it was not, and that too little regard has been shewn to the welfare of the inhabitants of this quarter of the metropolis, and to the community at large. Recently walking in the neighbourhood of Copenhagen-fields, I was much grieved to see the alteration in appearance of this once delightful spot. Verdure is now almost destroyed, and clamps of burning bricks occupy the spot where the weary citizen, after the toils of the day in the close counting-house, used to refresh himself with a mouthful of fresh air. In a few months hence it will probably be covered with a parcel of flimsy houses, run up with rubbishing materials; and the poor worn-out clerk and artizan will have to walk an additional mile or two to get a sight of a green field.

For some years past a gradual and systematic plan of encroachment has been carried on against the public enjoyments and convenience. Old footpaths and walks, which have existed from time immemorial, have been shut up. Many of your readers may remember the footpaths across the fields to Hampstead, Kentish-town, and Highgate, which were nearer, and more pleasant in the summer time than by the dusty roads. Perhaps some may recollect that most delightfully rural lane, called Hagbush-lane, which used to run in a northern direction from near Copenhagen House towards Highgate. This lane was an *ancient pack-horse road*, and before the use of vehicles, was the great northern road. This thoroughfare was closed some few years since by a system of gradual encroachment, in the most unjustifiable manner, and all signs of its former existence destroyed.

I do not mean to say that it is possible to undo all the mischief that has been done, or to restore the place to any thing like its former beauty; but a great deal may be accomplished if immediate and energetic measures are taken to secure this spot for the use of the public. If not done *immediately*, it will be too late, and the opportunity thus presented of giving additional beauty and health to the great metropolis *will be for ever lost*. J. C. P.

Clerkenwell, Oct. 25th, 1847.

NOTES IN THE PROVINCES.

The dilapidated old Church of Ewell, Surrey, is being rapidly replaced by the more spacious edifice erected chiefly at the expense of Sir G. L. Glynn, the rector, and at the cost of 6,000*l.*; from the design of Mr. Henry Clutton, architect. Contractors: Mr. Myers, and Mr. W. Killick of Ewell.——The Wesleyan College at Taunton, built from designs by Mr. James Wilson, of Bath, was opened on Tuesday week before last. It is in the Tudor style. The centre is marked by a tower, rising between two gabled compartments. Above the entrance there is an oriel window. On each side of the general centre are three divisions, separated by buttresses, each filled in with a window. The building is capable of accommodating 175 students. ——The Yeovil market and town-hall tenders having been lodged and opened, that of Mr. James Davis, of Frome, was accepted, being the lowest, and accompanied with 'testimonials of his ability as a builder.' The cost of the building (exclusive of the site) will be about 3,500*l.*——Steps have been taken for enlarging and improving the assize-hall at Wells, and for building a large consulting-room for solicitors and clients, enlarging the gaol, and building a kitchen and other necessary offices. It is also intended to improve, embellish, and refurnish the residence of the judges. Mr. R. Blakemore, M.P., has contributed very liberally towards the latter object.——The spire of Lydney Church, which is said to be 'one of the finest and nicest proportioned in the kingdom,' and about 220 feet high, is undergoing very considerable repairs, by Mr. Chas. Walker, steeple-builder, Lydney, at a cost of upwards of 180*l.*, borne by Mr. Charles Bathurst, Lydney Park. The spire, says the *Gloucester Journal*, is ornamented with a scroll, forming a cross, and worked from a stone weighing upwards of 12 cwt.——Fretherne Church was consecrated on Thursday week. The cost of the rebuilding, on the old site, has been about 3,000*l.* The edifice, which is in the late decorated style, consists of a nave (40 feet by 18 feet), a chancel (20 feet by 14 feet), with a vestry in the south side (8 feet by 9 feet); a north aisle adjoining the nave (23 feet by 9 feet 6 inches), and a western tower and broach spire. The principal entrance is through the tower on the north. The walls are 2 feet 6 inches thick, lined internally with white freestone ashlar, no plaster being anywhere used in the church. They are faced externally with a brown sandstone. The external dressing and moulded work, as well as the spire, bell turret, and crosses, being all of Bath stone, the contrast of colour between the Bath and brown sandstone is said to have a good effect. The floors are laid with encaustic tiles in pattern. The font is of white freestone, from Painswick, carved and moulded, and raised upon a grey forest-stone step. The roofs are of Memel timber, stained with asphalte. The sittings (which are open) and the pulpit, &c., are of Riga carved oak, dark-stained. The chancel windows, as well as those of the nave and aisle, are all filled with stained-glass, executed by Mr. Rogers, of Worcester. The organ is placed on the floor, under the west window, in the nave. The interior fittings have been executed by Messrs. Potter, Terry, and others, the Patent Carving Company, and Messrs. Minton and Co. The contractors were, Messrs. Ashbee of Kingscote, and Cholerton of Quedgley; and the architect, Mr. Francis Niblett of Gloucester.——The Birmingham Corn Exchange, opened on Thursday week, is 172 feet long, and from 37 to 40 feet wide, including the vestibules. It is of the Doric order of architecture, and is divided into three compartments by ranges of pillars on each side, between which are placed the dealers' stands, which are convertible into tables. The room is lighted by a semicircular glass roof running the whole length of the building, and not liable to be darkened by snow. There are 5,000 feet of glass in it. The room is decorated with statues and fitted up with gas-lights springing from cornucopias. Committee-rooms and other conveniences are also provided. The building was erected by Mr. S. Briggs, under the superintendence of Mr. Heming, the architect.——Mr. W. W. Weston, the munificent improver of the church of Stratford-on-Avon, has ordered the restoration of the chancel of Haselor church, of which he is the impropriator. The works will be superintended by Mr. Henry Saunders, of Stratford, architect. The old and curiously interlaced oak timbers of the roof, says the *Worcester Journal*, have already been laid open, and the east window restored in stained glass. Two arches, curiously painted, have been exposed, and other improvements effected.——The dilapidated old church of Brockworth, a few miles from the city of Gloucester, has been in course of restoration within the last two years. Much it is said has been done, and 186 sittings made free. The chancel, by the liberality of Sir John W. Guise (the lay rector), has undergone a thorough and perfect repair. Stained glass, by Wailes, for the east window, has been presented by Mr. William Davies, of Wellclose. There is a deficiency of 268*l.* 10*s.* however in the ways and means of completing the repairs. Reopening fixed for 2nd inst. Mr. Jacques, of Gloucester, is the architect.——Three years since a few students of Queen's College, Cambridge, requested permission of the authorities to contribute towards the restoration or rather re-exposure of the roof of the chapel. The restoration has been effected, and the roof now appears panelled in oak, and richly decorated with painting and gilding. At the same time Mr. R. Moon, M.A., restored the pitched timber roof of the hall, and added a louvre and bell turret. A new east window of Caen stone has also been added to the chapel, the stained glass by Mr. Barnett, of York. Much, however, remains to be done both to the chapel and hall. A tasteful restoration of the windows and wainscoting, it is thought, would render the hall the most architecturally correct in the university; and we trust, says the *Cambridge Chronicle*, that all the members of the college will unite their efforts to restore these edifices. ——The church of Brothertoft, near Boston, has been restored and beautified in the Gothic style at the expense of Mr. Thomas Gee. The reconstruction has been effected by Mr. Booth, of Boston, under the supervision of Mr. S. Lewin, at an expense of upwards of 900*l.* The most effective ornaments of the building, says the *Lincolnshire Times*, are the carved pulpit and altar-screen by Mr. J. W. Carter, of Boston, lately foreman to Mr. Booth.—— St. Paul's Church, Hull, was consecrated on Wednesday week. The plan of this church, says the *Hull Packet*, consists of chancel, nave with aisles, vestry, and tower to be crowned with a lofty spire. The style is early English, with lancet windows. The west end has an arcade of five arches, two pierced. The roofs are of lofty pitch, covered with Dampier's patent dark-gray tiles, which have a pleasing appearance. The walls are of rough stone, from Brough; with quoins, &c., of Caen stone. In the interior the nave is divided from its aisles by an arcade of six arches on either side, and mainly depends for effect on its roof, which is open to the rafters, and supported by arched braces on stone corbels. The seats are all alike, low and open. The chancel (40 feet long) is separated from the nave by a moulded arch, and rises by steps eastward to the altar. The

eastern triplet is filled with stained glass, by Mr. Wailes. The internal length of the church is 123 feet; and the internal height to the ridge of the nave roof is 47 feet. The contemplated height of the spire is 160 feet. The architect is Mr. W. R. Dykes, of York, and the contractors are Messrs. Simpson and Malone, of Hull.——A Health of Towns' Association is about to be established at Doncaster, in connection with the metropolitan one, and for the prompt adoption of practical improvements in the drainage, water, ventilation, &c. of the town.——The Newcastle and Gateshead Whittle Dean Water-works have made great progress towards completion. The earthwork of the reservoirs at Welton has been executed. The store of water which they will contain will be about 250,000,000 of gallons,—the present consumption of Newcastle and Gateshead being rather less than 1,000,000 gallons per day. Of the twelve miles of iron aqueduct pipe, upwards of eight miles are laid. ——The alterations and repairs of Glasgow Cathedral are progressing slowly towards completion. The clock-tower at the west end has been reduced in its proportions to a level with the body of the cathedral. It is thought to be an addition never contemplated by the architect. The external repairs on the south side are completed, and the removal of the north transept is in progress. The churchyard has been lowered about 4 feet at the east end, in order to uncover the lower part of the building.

RAILWAY JOTTINGS.

Iron-girder bridges, formerly believed to have been made on a principle which insured their safety, having being found to be really not so, says a Manchester paper, it is important to know that further attempts are being made to construct bridges which shall, to a much greater extent, combine safety with economy and simplicity. Lately, says our authority, we saw a model of one which is said to combine these important properties, and is now exhibiting at the Town-hall warehouse, Cross-street. It is a perfect arch, composed wholly of iron; is 22½ feet long, 8 inches deep, 20 broad, and weighs about 6½ cwts. It combines the arch with the abutment bridge, and they can be used separately or together. All the tension parts are made of wrought-iron, and the compression parts of cast-iron. It is so constructed that the rafter and ring-post principle intersect throughout the whole of the structure; and there are chains at the bottom and centre for keeping the whole in a perfect state of tension, thus equally distributing the weight or pressure. The model now supports a weight of 50½ cwts., without having the abutments up; it, consequently, depends upon the chains entirely. We were told that, if the weight be taken off the centre of the arch, its curve would still be maintained without the slightest deviation: it possesses another important property, that of compensating itself against heat and cold.——By the suspension of railway works, it is believed that between 200,000 and 300,000 persons, in all, will be thrown destitute; and that nearly 10,000 railway navigators would be put out of employment within a distance of ten miles round Manchester alone, during the ten days just past. 'With so large a portion of their own working population suffering from the want of employment,' observes a contemporary, 'this large amount of unemployed labour thrown upon the manufacturing towns cannot fail to seriously aggravate the state of things during the coming winter.' But it probably matters little to the Stock Exchangers on whose shoulders the liability of sustaining them now falls.——The Railway Commissioners have just called for a return from all the railway companies, with the view of ascertaining the estimated amount remaining to be paid by each of them, and the probable expenditure, during each half year, to 31st December, 1851. The return is to specify the various termini, lines partially or entirely contracted for, and amounts to be expended. Under head of 'Contracts entered into,' date of expiration of contract is to be given, and amount remaining to be expended under it; estimated amount to be expended under each contract to 30th June, 1848; amount in addition to such contracts; amount required to complete works, and up to 30th June next. The return is also to give a list of lines for which no contracts have been made; of works commenced, and amount required to complete them to 30th June; of those not commenced, and amount authorised to be raised and expended, with probable expenditure during half-year ending 31st December, 1847, 30th June, 1848, and 31st December, 1848. It is understood to be quite optional with the companies whether to comply with these requirements of the return or not, as the commissioners have no power to compel them; but it is thought, says the *Times*, that, as the information sought for is not inquisitorial in its character, the return will be generally acquiesced in.——The site for the terminus of the South-Western in York-road, Lambeth, has been cleared by Messrs. Lee, the contractors for the works of the extension from Nine Elms, and they are making active progress towards the completion of the line by next spring. The viaduct is nearly completed to Westminster-road. The whole length of this viaduct, nearly two miles, passes through a densely-populated neighbourhood. The arches are to be let for shops, workshops, and dwellings, and are to be covered the entire length of the viaduct with 'Seyssel Asphalte,' prepared by help of a sort of portable steam-engine of all work, made by Messrs. Eastern and Amos. The entire surface to be thus covered is estimated to contain about 450,000 feet.——The Lynn and Ely line was opened throughout on Monday week: from Lynn to Downham Market had been opened for some time. The bridge over the Ouse is considered a work of art, and a good specimen of carpentry. The Government inspector, Capt. Wynne, R.E., has reviewed the works. His examination is stated to have been very close and severe, his attention being most particularly directed to the bridges over the Ouse and Wissey. The engineer by whom they were constructed is Mr. J. S. Valentine, and the resident engineer Mr. Houselander. The bridge and viaduct over the Wissey is 103 yards in length, and consists of one opening of 70 feet span over the waterway, similar in construction to the bridge over the Ouse, and seven side openings of 30 feet span each, with a single span over the waterway of 121 feet 6 inches. The method adopted to support the railway over this space is by suspending the platform from three timber bows, each formed of 3-inch deals, firmly united together by oak trenails. The suspension rods are of wrought-iron, of the best material and workmanship, it is said; each rod having been proved equal to a strain of 20 tons; and as there are 72 of these rods, the weight they are capable of supporting is 1,440 tons; but the greatest weight they will be required to carry will not exceed 310 tons, the platform itself being 150 tons, a weight never likely to come upon the bridge except for the sake of experiment. The piers are of Yorkshire stone, the foundations being sunk to a depth of 30 feet. Four engines and tenders, and five waggons laden with iron, were placed upon this viaduct at the same time but the deflection, according to the *Morning Advertiser*, was scarcely perceptible. The *Morning Herald* states that the proprietor of two windmills, 150 yards from the Ouse embankment, has got 1,000*l.* compensation for 'loss of wind!'——The timbers supporting one of the arches (the seventh) of a viaduct of twenty-one arches crossing Wharf Dale and the River Wharfe, on the Leeds and Thirsk line, gave way on Tuesday week before last, while the workmen were quoining the arch, and the quoined portion fell and killed two of the workmen. This viaduct carries the railway across the river at a height of 70 feet above the surface of the water. The arch which fell was 30 feet in width. The stones had been applied to about 20 feet of the arch, and the mortar spread for the remaining ten feet of stone, when the timbers gave way. Serious apprehensions were for some time entertained as to the stability of the other six arches.——On Friday week the centre work for one of the arches of the Caldervale viaduct was blown down by the wind, and a damage of 200*l.* sustained. ——The laborious work of arousing railway directors to a sense of their duty, their interest, and their safety, as well as the safety of the public, seems now about to be rewarded with something like success in the manifestation, at length, of a reluctant endeavour to provide the simple means of securing both. The South-Western Company have recently affixed to the guards' carriages a very loud sounding bell, to be rung by the guard while the red or danger flag flies up, as a signal to the engine-driver to stop the train. Various simple, but it is said effectual, contrivances are also being instituted on some Scottish lines, including what a clergyman in the *Times* also recommends, namely, a suggestion lately made by ourselves, that the side footboards of carriages be converted into a secure passage for the guards, at least on one side, by means of a rail, with space within for the movement of one person along the train, from carriage to carriage. The guards would thus be able to see or hear, and judge for themselves as to any necessity suggested by passengers for stopping the train, &c.; and might be called on for the purpose by some simple but efficient communication between the carriages and their seats, but they should be also appointed to make the circuit at short intervals. The tickets, too, might thus be again, as once, but thus with perfect safety, collected by the guards. To prevent passengers from having exit along the guards' beat, the doors on that side might be locked by the guards.——The atmospheric trains on the South-Devon line are said, by the *Western Times*, to be running with success. We should like to see how they get through the winter campaign, however, before being again obliged, as we have been, to fluctuate perpetually, between good reports and evil, as to the doings of the atmospheric lines.——It is said that the whole of the traffic between Malton and Driffield had been conveyed on the back of a donkey previous to the formation of the Malton and Driffield Junction Railway, and that before the construction of the Newcastle and Carlisle Railway the whole of the passenger traffic on that road was done by one coach.——The contractors for the completion of the branch from the Furness line to Broughton-in-Furness, have pushed forward their undertaking, so that it will be finished in about six weeks. The station at Broughton is in the course of erection.——We learn, says the *Carlisle Journal*, that the works on the Carlisle and Glasgow line, near Dumfries, are daily increasing in interest, particularly at Nunholm, where the bridge is in course of erection. The scaffolding on which the crane travels has been carried across the river, and the wondrous machine is fairly set to work. Seizing three or four gigantic stones in its forceps, it deposits them in the foundation-bed, returns to the bank asking for more, and by its aid the operatives will soon be able to raise a rampart of mason-work above the water.——Compensation for detainment half an hour at the head station of the Edinburgh and Granton line was recently obtained at law by a passenger who held a ticket for a train in which there was not room enough for him.——The engineers of the Perth and Dundee Company, since witnessing the late inundation in the river and its effects, are doubtful of the propriety of following out the plans lodged for the Perth bridge, which was intended to be of wood. The navigation commissioners have also, we hear, complained to the Treasury of certain proceedings on the part of the Lords of the Admiralty, the sanction of both being required to any plan for crossing the river.——The greatest engineering difficulty presented in the construction of the Ulster Railway, says the *Northern Whig*, was the formation of a bridge over the Bann, on the Ulster Railway, without the expenditure of an excessive sum of money. The river is of considerable breadth, and its bottom at the point of passage is composed of soft mud and bog. The difficulty, however, has been overcome, a substantial bridge having been constructed at a moderate expense from a plan by Mr. Godwin, the company's engineer. The bridge is 200 feet in length, divided into five compartments of 40 feet each. It is constructed entirely of timber, with the exception of malleable iron tension-rods attached to the girders, technically termed 'trusses.' The height of the bridge, from the summer level of the river to the rails, is 22 feet, the depth of the water about 20 feet, and the bottom consists of mud and bog, as already stated, to a depth of above 16 feet. The bridge is therefore supported on piles and framing nearly 60 feet high.——The bridge at Etaples, constructed for the passage of the railroad from Abbeville to Boulogne, fell last week. The expense of repairing

it will be 30,000 francs.——The railway from Cracow to the Prussian frontier was opened to the public on the 14th ult. This line joins that of Upper-Silesia, and thus completes the communication with Vienna and Berlin. The whole journey from Paris to Cracow, says *Galignani*, may now be done by railway in three days and a half.

Correspondence.

WESTMINSTER COURT OF SEWERS.

MR. EDITOR,—Your report of the 30th October expresses that your statement on the alleged illegal conduct of a commissioner was a record only of the proceedings of that court, whose misdoings are no protection to others. I do not desire to trespass more than possible on your pages, yet I cannot but remark on your last week's report, where you say the solicitors give it as their opinion,—"That the owners of existing houses might be called upon to contribute, providing the houses had not been erected more than thirty-five years."

Is it possible that professional men who have received upwards of 900*l.* for their new Act, which you report they are called upon to explain, can be thus ignorant that the Act compels every person to drain into every sewer if within 100 feet of a dwelling, be the sewer or house as old as the said solicitors (if they made such a statement) are young, or green, if you please? Well might some of the members of the court repudiate such doctrine; the result of which is, the solicitors obtain a further job to draw up a case, obtain counsel's opinion, and report a copy to a future court. Not only doth the court (which, unfortunately, abounds with lawyers) thus waste the rate-payers' monies, but delay for months their proceedings, and Mr. Carter's buildings stop, in the month of November, over a question capable of being solved by any boy of common understanding. The court being attended by a solicitor (who, of course, works gratis) at each of its meetings, is new. I can only reflect and feel ashamed of the commission. What right have men to accept appointments if they are incompetent to decide so simple a question? Mr. Carter may safely proceed with his sewer: he must and will be paid for it,—the price may be ascertained some twelve months hence by that splendid body whose duty it was in July last to have prepared a tariff of prices for sewers, as a fixed rule, thereby informing sewer-builders what they had to expect. This should have been done by the special court (which, for the future, I shall designate the insane court) summoned for the 27th of July last, expressly to make rules for the carrying out of the new Act, whose energies produced two resolutions, one of which survived one month, when it was repealed, and the other is waiting the same result, both being equally absurd.—I am, Sir, &c.,

WM. FARLAR.

Brompton-square, Nov. 3, 1847.

THE IRON TRADE.—It is not true, as some accounts would assert, says the *Birmingham Gazette*,—a stout upholder of the prospects of the iron trade,—that prices have been fully sustained in all branches of the trade, and that it has been 'unaffected by the difficulties consequent upon the very serious monetary panic.' Contracts for rails have been taken at lower rates, and the bonus of cash payments would have been eagerly secured at a considerable sacrifice upon any description of iron. In the pig trade there has been a giving way—to a slight amount, it is true. On all hands a diminution of confidence has been felt, and an evident desire shewn to contract business to the lowest consistent amount. We were sorry to observe, in an article that has appeared in a leading metropolitan journal, already severely commented upon, an assertion, based upon a hurried, half-informed report of the proceedings at our last quarterly meeting, that the interests of this trade are adverse to those of every other, and that its prosperity inflicts poverty and hardships upon the masses of the people. This we feel called upon flatly to contradict. There is not, that we are aware of, any trade in existence which so continually and immediately circulates an equal amount of its returns among the working classes of our country—surely not any of those where the raw material is of foreign production.

Miscellanea.

VENTILATION OF CHURCHES: ST. JOHN'S, LIVERPOOL.—Bad ventilation being greatly complained of here, a plan was proposed, which, although only partly carried out, has been successful, according to the *Liverpool Standard*, in a great degree. It was proposed to cut apertures in the ceiling, and in the apertures, flush with the ceiling, to place circular gratings, and from the apertures run shafts, having flanges or bonnets at the bottom of each shaft to cover the aperture, so as to create a draft, and prevent the impure air diffusing itself through the interior of the roof, thereby causing pressure, and preventing a quick draft through the orifices in the gratings. More openings and pagodas were proposed to be placed in the roof, the then existing ones not being sufficient to carry away the impure air from the interior of the roof. With the extra openings abovementioned, the shafts, it was suggested, might be dispensed with; but the ventilation would not be so complete and effectual without the shafts as with them. A horizontal shaft was proposed to be placed upon the joists over the ceiling of the church, one end running into the tower, and from the other end of the horizontal shaft to run a shaft perpendicular into a louvre in the roof. It was proposed that the clock in the interior of the church should be taken down from its present situation, so that the orifice through the wall, which is nearly 4 feet in thickness, and is bored through to the interior of the tower, might be made use of for the purpose of ventilation, by placing a grating over the aperture which the clock now covers, and having a shaft from the other end to one of the windows in the tower. If the shaft was not approved of, it was suggested that the three windows in the tower should be made so as to create a draft to carry the impure air through the Venetian windows in the belfry, false floors being objected to as over-expensive. Shafts were proposed to be run under each side of the pews in the body of the church, to reservoirs sunk in the centre aisle to receive the pure air, with gratings over them. The above plan, if acted on, would, in the opinion of the architect, in which the authorities connected with the church coincided, have removed the inconvenience complained of, arising from the impure air collected when the church is crowded in service hours. From financial considerations, however, only a portion of it has been acted upon. The shafts which were to be run along each side of the body of the church, in connection with air-reservoirs under the centre aisle, have been dispensed with; and the opportunity has for the present been lost of using the orifice in the wall, in which the clock is fixed, for ventilating purposes. The windows in the tower, which, in case a shaft was not run through, might be made of great service by being opened, and perforations made in the ceiling, remain as they were, closed.

A NEW TREDDLE-WHEEL CARRIAGE, expected to travel on common roads at the rate of ten miles an hour, by the light, simple, and pleasant labour of a tread-wheel attached to machinery in the interior, and capable of carrying twelve persons at this rate, for thirty to forty miles, by one driver, without fatigue, is at present exhibited in model at Liverpool. If the power requisite as a prime mover be so light and easily applied, why not replace the driver's by a powerful spring, to be wound up like that of a watch, at convenient stations, or by the driver himself at once, with the help of a passenger or two, instead of having him on the tread-mill continually, like some incorrigible criminal?

ELECTRO-TELEGRAPHIC PROGRESS.—Along the North-Western line the electric telegraph is rapidly approaching completion. Workmen have been employed in laying it down at Euston-square, whence it is to run along the New-road, King's-cross, Pentonville, City-road, &c., to the central station in Lothbury. Below Wolverton, the line of telegraph is already finished and in working order, and it is expected that before the close of the year the communication between Liverpool and London will be fully established.

IMPROVEMENT OF PULLEYS.—A patent has been taken out in America for increasing the adhesiveness of the surface of pulleys, drums, &c., by a coating of India-rubber, or some other gum of similar nature.

IS BAD WORK TO BE PAID FOR?—This is a question, says the *Iris*, which frequently arises in Sheffield, and one which it is often exceedingly difficult to decide, especially as to work sent out to be done. In a recent instance, a quantity of stuff for files was given to a workman to cut, and instead of doing them properly himself, he employed a boy to cut the round part and a man to cut the flat, and the work was badly done. The wages were therefore refused, and a proposal was made that the workman should pay the worth of the iron and take the files for his wages. This he refused to do, and summoned his employer for 25*s.*, which the mayor restricted to 20*s.*, dismissing the summons, but ordering that sum to be paid, as he conceived that, though badly cut, the employer 'might manage to get rid of them in some manner:' rather an equivocal recommendation, surely, from a magistrate. The defendant was by no means satisfied with the decision, especially as this was but one out of many instances in which he would be obliged to 'get rid' of bad files 'in some manner.'

NORFOLK AND NORWICH ARCHÆOLOGICAL SOCIETY.—At a meeting held the week before last, the Rev. R. Hart read a paper on the "Pilgrimage to Walsingham," chiefly founded on Erasmus's account of his visit to that celebrated shrine.—The Rev. John Gunn, who had intended to have read a paper on Herbert de Lozinga's Norman tower, but had not been enabled to prepare it in time, made some remarks on Yarmouth church, particularly describing the recent discovery of Lozinga's tower, and explaining, by reference to plans and drawings, the manner in which the desire to preserve it had affected the subsequent enlargement of the church.—Mr. Harrod, the secretary, read a paper on, and a translation of, a document, found amongst the corporation records, relating to the broils which were prevalent in the reign of Henry VII., between the prior and monks of Norwich and the authorities of the city.—Mr. Francis Worship read a letter, addressed by himself to Mr. Dawson Turner, in reference to the Cromer monument, lately discovered in Yarmouth church; and an engraving of the monument, which had been executed at the expense of Mr. C. Palmer, was presented by that gentleman to the society.—The Rev. James Bulwer gave some particulars respecting some very beautiful rood-screens, in Gately, Caston, and other churches, and exhibited drawings of each.—The Rev. C. Thomas took the opportunity of remarking, with respect to the subject of screens bearing emblematical designs, that there were four, he was informed, that were at present blocked up by pews, or covered with plaster; so that the emblems on them were hid. These four were at Gooderstone, Rainham St. Martin, Suffield, and Foulden, near Oxbourne; and he had no doubt that, were attention directed to the subject, many others would be discovered.—Mr. Britton, who was present, made some observations on the peculiarities of Yarmouth church. The Bishop of Norwich was in the chair, and Sir John Boileau took an active part in the proceedings.

LITHOGRAPHY FOR ARCHITECTURAL SUBJECTS.—We have recently seen some specimens of a new process of *stumping* in lithography, by Hullmandel, which may be advantageously used for architectural subjects, as it supersedes the necessity of a tint-stone, and so enables a good effect to be obtained with economy.

BRUGES CATHEDRAL TO BE COMPLETED BY AN ENGLISHMAN.—A termination has been given to the tower of the cathedral of Bruges, from the design of Mr. Chantrell, under the superintendence of M. Buyck, towns' architect of Bruges. It is of very massive proportions and 250 feet high, with the detailed decorations resembling the towers of Ely, Norwich, Rochester, and Durham. The former wooden termination was burnt some years since. The west end of the cathedral, long unfinished, is about being completed also.

DESTROYERS OF BRITISH SHIPS.—A friend writes us from India, that in the dockyard of Bombay is to be seen a new ship of the line, entirely destroyed by an invisible army of white ants, who have riddled every timber to such an extent that they will scarcely hold together. What will not united and repeated efforts effect?

Compensation for Goodwill, &c.—In a case of compensation sought by Mr. Hallett, for loss of trade, &c., in premises situate in Dorset-street, Blackfriars, required for the purpose of city improvements, the claimant had taken the lease and goodwill under covenant to grant an annuity of 30*l.* per annum to a Mrs. Snoxall, whose husband had carried on business as a blind-manufacturer in Dorset-street and Crown-court; and not only to allow Mrs. Snoxall to reside in one of the houses, but not to carry on the same business (which had been established upwards of sixty years, under the name of Snoxall and Hallett) at any other place. The lease was granted in 1839, for twenty-one years, by the Earl of Delawarr, at a rental of 90*l.* per annum, which was less than its real value, and as much as 100*l.* improved rent had been offered for a portion of the premises. The claim, therefore, was for 825*l.*, seven years and a half improved rent, and 1,836*l.*, three years' loss of profits. The matter was tried at the court of compensation, and evidence was adduced at great length on the part of the claimant. The Recorder held that no claim could be made for what might have been an improved rent for another business, unless the claim for the one now carried on was abandoned. The jury, however, would estimate the improved value of the property as at present used and enjoyed, and a reasonable compensation for loss of profits. The jury gave a verdict for 387*l.* improved value of the lease, and 645*l.* 3*s.*, one year's loss of profit, fixtures, and loss by removal; the whole amounting to 1,030*l.* 3*s.*

Goodwin Sands: Another Beacon Swept away.—The iron tubes of Dr. Potts may still remain, but the beacon erected on them has shared the fate of all its predecessors. It was washed away by the violence of the storm of the 23rd ult.; but it can scarcely be possible that the tubes or piles themselves were reached, as they were sunk to a depth of more than 31 feet below the surface. Dr. Potts still maintains that they 'will be found efficient for bearing any proper superstructure,' but that 'the variety of erections engineers may be pleased to place on them, is a matter not under his control.' In our next number we hope to afford some clue to the cause of this unfortunate event, which may lead to the establishment of a structure less likely to be broken off by the violence of storms or the collision of vessels in distress.

Design for Labourer's Cottage.—The Society of Arts have repeated the offer of their large gold metal, or thirty guineas, for the best design for a labourer's cottage in the country. "The drawings are to comprise a general plan, elevation, and section, drawn to a scale of three-eighths of an inch to the foot, together with the requisite working drawings to a large scale, and a general specification of the internal finishing and fittings proposed. The design must provide a living-room, a scullery, and three bedrooms. Presuming, in structures of this description, where the outlay must necessarily be very limited, that both with a view to economy of material and likewise to external effect, it will be considered desirable that the cottages should be erected in pairs, the wall between them containing the flues, in such cases the details of one only will be required. It is necessary that consideration should be given, firstly, to the most convenient arrangement of the parts; secondly, to the best means of ventilation, drainage, supply of water, cleanliness, and economical heating; and lastly, to combine therewith the most pleasing and picturesque effect attainable with reference to the limited outlay. The cost of a double cottage erected in Middlesex, when completed, with the requisite landlord's fixtures must not exceed 300*l.*"

Works in Hand.—Mr. Richardson has nearly completed a work on ornamental design, which promises well. Mr. Henry Kendall, junior, has a collection of designs for schools and school-houses in hand: and Mr. F. T. Dollman is about "Examples of Antient Pulpits, from drawings and measurements taken on the spot."

Warming Railway Carriages. — In America a patent has been taken out for an improved mode of warming railway passenger trains by a combination of flues, connected, by elastic and flexible hose, with openings and registers in the bottom of the carriages.

Yorkshire Architectural Society.—At a meeting of this society, in the week before last, it was stated that it was intended to destroy two interesting ancient chapels at Bolton and Redmire, Wensleydale, and to substitute one modern erection in their stead. It was accordingly resolved that the secretaries be directed to communicate with the ecclesiastical authorities of the place, deprecating the proposed demolition of the ancient chapels, and expressing the willingness of the society to contribute for the purpose of their restoration. It was also resolved that a grant be made for the purpose of obtaining an accurate survey of the churches in the deanery of Pontefract; and Mr. J. W. Hugall and Mr. C. Vickers expressed their willingness to co-operate in the undertaking.

Two Houses Fallen in.—An accident, demanding the most serious attention, occurred on Sunday night week, about eleven o'clock. Two houses at thetop of Chapel-street, Devonport, upon the building of which Mr. Weary, builder, and Mr. Grant, builder, have been engaged about eight months, fell in with great noise: the beams and joists were fixed, and both houses just ready for roofing. What could have been the cause of the disastrous accident it is difficult to say, or whether blame attaches to the builders, but the middle wall between the two houses appears to have been the part that first gave way, and the stones used in the building were taken from those of the old houses that occupied the site. Happily no individual was injured by the fall.—*West Briton.*

Sawing Iron.—It is often forgotten by smiths that iron, when heated, may be put into a vice, and the ends may be readily split by a suitable saw. A saw fit for this purpose should be thicker at the edge than at the back, and with uniform teeth, one-twelfth of an inch apart. The saw when used must be often dipped in water, to prevent its becoming too much heated. It may be mentioned that a bar of iron of almost any size may be sundered, while hot, by the simple application of common roll brimstone.

TENDERS.

For alterations in the School of the London Domestic Mission Society, in Half Moon-alley, Whitecross-street, Mr. Edward Hall, F.S.A., Architect. Opened in the presence of the parties.

Lawrence and Son	£1,274
Winsland and Holland	1,048
H. Burton (accepted)	1,024

TO CORRESPONDENTS.

"*Surveying.*"—A correspondent wishes to know "the method adopted by those engaged in the contouring of Ireland in obtaining the necessary data for laying down the contour line, or any other method for the same purpose which may be considered useful."

"*H. W. G.*"—will find some information in a little pamphlet "On the Cottages of Agricultural Labourers, with Economical Working Plans," by Mr. Edward Cresy, published by Ridgway. We cannot at this moment treat the subject of labourers' cottages ourselves:—some of our correspondents may perhaps be able to do so.

"*Friends in Lille.*"—Thanks for paper.

"*L. H. I.*"—Write to the secretary of the association, Lyon's Inn Hall, Strand.

"*A Frequent Reader.*"—If our correspondent will write to Mr. Fowler, Dorset-street, Fleet-street, or Messrs. Burridge and Healy, 130, Fleet-street, he will obtain information from which he may judge. Bernan's work on Heating (published by Bell) would be found very useful.

"*Y. Z.*"—Write to Mr. J. P. Knight, at the Academy.

"*Messrs. B.*"—Thanks. Too late for present week.

"*Orientation of Churches.*"—We are unable to find space for half a dozen further communications on this subject, including that of our old correspondent, "J. K."

"*A Good Stain for New Oak*" is often asked for: those who know it do not seem willing to communicate.

Received.—"Improver," "J. G.," "A Reader," "F. L." (Wavertree), "D. W.," "W. B." (Southwark), "J. J. S.," "A Londoner," "Cedda," "P. S.," "J. J.," "Constant Reader," "Regular Sub. since 1843.," "X. Y. Z.," "J. S."

Books Received.—"The Practical Furnishing, Decorating and Embellishing Assistant." By Henry Whitaker (Fisher, London), Parts I. to XI. "Practical Cabinet Makers' and Upholsterers' Treasury of Designs." By H. Whitaker (Fisher). "The Tradesman's Book of Ornamental Designs." Part VI. (Orr and Co.) "The People's Journal:" Parts X. and XI. (Bennet, 69, Fleet-street.) "Tait's Magazine" for November (an interesting number). "Caldwell's Musical Journal:" Part V. (Orr and Co., London.) "Laws of the Freemasons of the Church." "Journal of Public Health:" No. I. (Renshaw, Strand.)

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only.

70, York Road, Lambeth; and at 28, Cross Street, Blackfriar's Road.

DRUCE'S, No. 2 WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weigh-bridge and drawdock.—N.B. Depôt for Glass Pantiles.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

PLATE GLASS.—Architects, Builders, and the Trade generally, are solicited to inspect the quality and substance manufactured by the Union Plate Glass Company. Liberal discounts allowed on glazing qualities. London Warehouse, 99, Hatton-garden, Holborn. H. CHRISTIE, Agent.

N.B. ROUGH PLATE GLASS supplied one-fourth, three-eighths, one-half, and three-fourths of an inch thick.

SOHO PLATE-GLASS WAREHOUSE, 26, SOHO-SQUARE, depôt for the sale of the PLATE GLASS manufactured by the St. Gobain and St. Quirin and Cirey Companies, Paris. The attention of Architects, Builders, and the Trade generally is particularly requested to this article, which stands UNRIVALLED FOR BRILLIANCY OF COLOUR, superiority of substance and polish, and possesses almost faultless quality. This Plate Glass can be procured of any dimensions.—Applications for samples, lists of prices, and all further particulars, to be addressed to ALFRED GOSLETT, Agent, 26, Soho-square.

THE BIRMINGHAM PLATE-GLASS COMPANY beg to call the attention of the Trade to their manufacture of superior Polished and Rough Plate Glass. Having recently enlarged their works, and erected an additional 80-horse power engine, they are enabled to produce a much larger quantity. The prices will be found to compete with any establishment in the trade. A large stock of Polished and Rough Plate always on hand. LONDON WAREHOUSE, 141, Fleet-street; WORKS, Smethwick, Birmingham.

PHŒNIX PLATE GLASS WAREHOUSE, 24, St. Mary Axe, City.—E. MOSS, Proprietor. Builders, Upholsterers, and Consumers of Plate Glass, will find this the Cheapest House in London for Plate Glass for Shop Fronts, Railway Carriages, Mirrors, and other purposes. Colour, Quality, and Substance unrivalled by any other house in the Kingdom. ROUGH PLATE GLASS for Skylights supplied ¼, 3-8ths, ½, ¾, and inch thick. All Plate Glass for Shop Fronts delivered within five miles of London free of all charge, and estimates given, free of expense, in town or country.—No connection with any other house.

LONDON and MANCHESTER GLASS COMPANY.—PLATE GLASS.—Architects, Railway Contractors, Builders, and the Trade generally, are respectfully informed the "London and Manchester Glass Company" have now opened their London Warehouse, 12, Rathbone-place, Oxford-street, for the Sale of PLATE GLASS, suitable for Silvering, Glazing, and other purposes. The Colour and Polish are very superior, and the substance strong. The Tariff of this Company is the same as the one at present adopted by the Trade, from which very LIBERAL DISCOUNTS will be allowed on each description of Glass.

ROUGH PLATE, suitable for Railway Stations, Warehouses, Skylights, and Floors, may be had of every thickness, at very MODERATE PRICES, upon application to

J. L. GRUNDY, Company's Agent.

12, Rathbone-place, October 21, 1847.

PLATE GLASS! PLATE GLASS!! PLATE GLASS!!! East London Plate and Sheet Glass Company, Leman-street, Goodman's-fields.—We beg to call the attention of the Trade to our Plate Glass; the Strength, Colour, and Quality of which remains unrivalled by any other company. It is admitted by the trade, that our glazing quality is superior to that used for silvering by most other houses. Rough Plate for Skylights and Flooring purposes, &c. All orders to be addressed, B. MOSS and Co., Leman-street, Goodman's-fields.

N.B. The business of this establishment is in no way connected with any other house in London of the same *name*.

WINDOW-GLASS, LEAD, VARNISH, COLOUR, and PLUMBERS' BRASS WORK MANUFACTORY, 87, Bishopsgate-street Without. Lowest prices charged. Please inquire them.

Builders, Painters, Glaziers, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET. BRITISH SHEET.
BRITISH CROWN. PROPAGATING GLASSES.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop-fronts, Show-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Ground and Dry Colours of the best quality; Brushes, Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS; Lead Pipe, Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 87, Bishopsgate-street Without, London; THOMAS MILLINGTON, Proprietor.

HERRING'S PATENT SAFETY WINDOW.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it; repay the cost every two years; abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind; all simple, cheap, and effective.—Apply for licenses, and to inspect its real merits, to HERRING'S Patent Steam Bed-Feather Factory, 14, Kingsgate-street, London.

CHAS. WM. WATERLOW,

MANUFACTURER

of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

TO THE BUILDING WORLD.

H. BANKS,

Manufacturer of Shop-Fronts, Sashes, and Frames, and Joiner to the Trade, 78, Bethnal-Green Road, London. Parties engaged in building, will find the charges at this establishment cheaper than any other house in London. A full list of prices forwarded by return of post to any part of the country.

N.B. Glazed Goods securely packed for the Country.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS.—To be had of EDWARD BAILLIE, Glass Painter and Stainer, 12 a, Cumberland Market, Regent's-park, London. Their extensive and successful application to Public Offices, Bed-rooms, and the cure of Smoky Chimneys, prove their great utility. Forty per cent. from the original Tariff.

VENTILATION IMPROVED, AND SMOKY CHIMNEYS CURED.

BAILLIE'S PATENT TRANSPARENT VENTILATORS are at once efficacious, neat, and easily adapted to any sash, and where thorough ventilation without draught is required, will be found invaluable, and especially as a cure for smoky chimneys.—Supplied Wholesale and Retail by E. and W. H. JACKSON, Window Glass Warehouse, 315, Oxford-street.